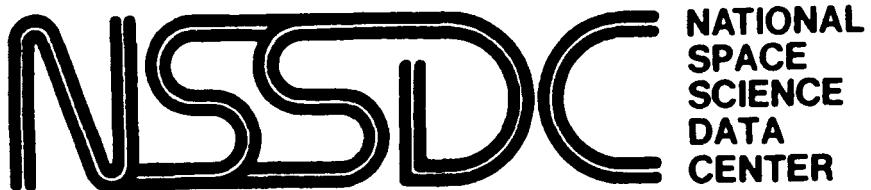


NASA-TM-89694



WORLD DATA CENTER A for ROCKETS AND SATELLITES

87-02

(NASA-TM-89694) PROMIS SERIES. VOLUME 5:
IMP 8, INTERPLANETARY MAGNETIC FIELD DATA
(GSFC) (NASA) 97 p

N90-70523

Unclassified
00/90 0251556

PROMIS SERIES

VOLUME 5

IMP 8
Interplanetary Magnetic
Field Data (GSFC)

NSSDC/WDC-A-R&S 87-02

PROMIS SERIES
VOLUME 5

IMP 8
Interplanetary Magnetic Field Data (GSFC)
R.P. Lepping, C.M. Wong, and J.H. King

January 1987

FOREWORD

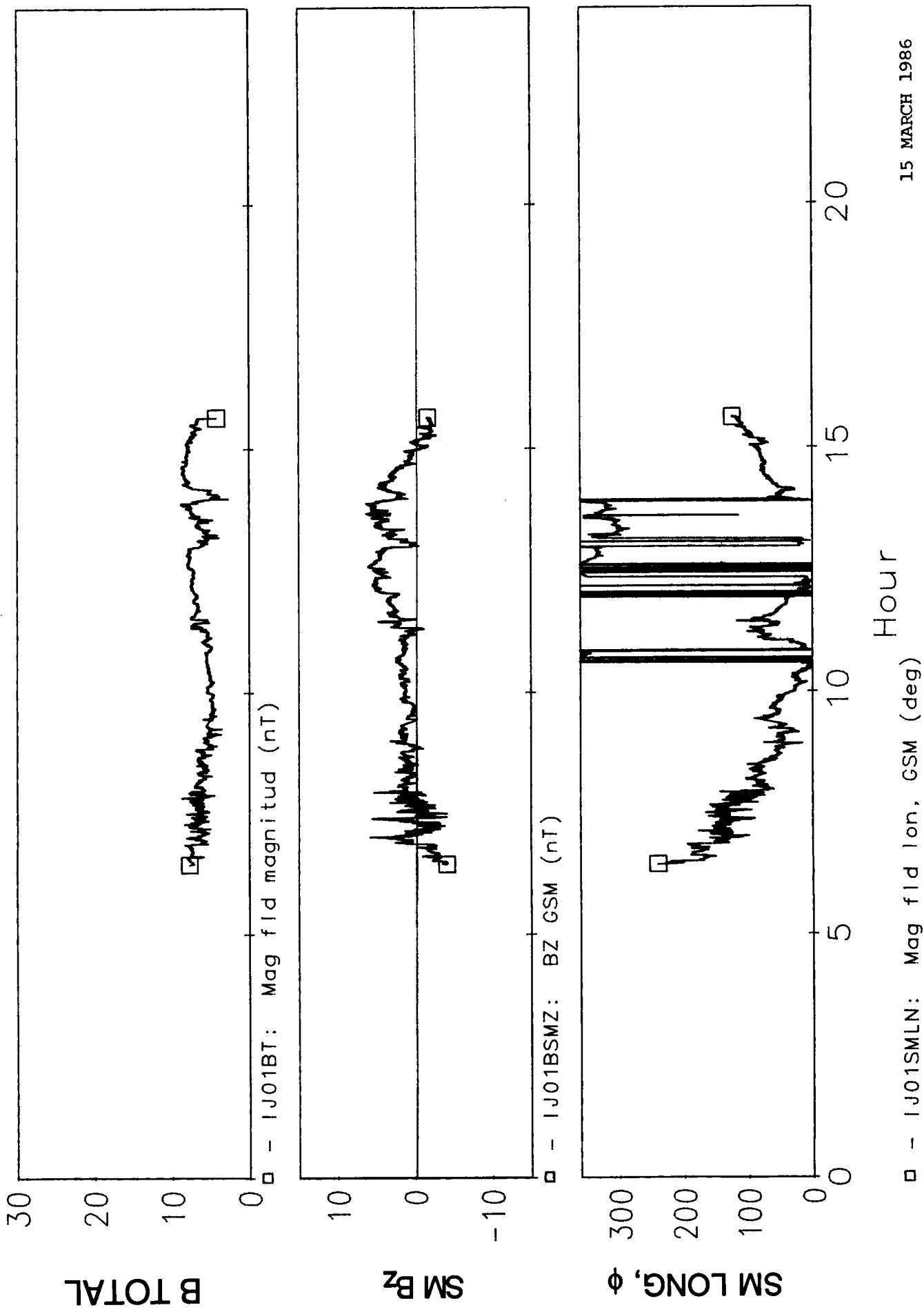
This is the fifth of the series of volumes published by the NSSDC/WDC-A pertaining to the Polar Region Outer Magnetosphere International Study (PROMIS) period, March 29-June 16, 1986. The plots in this volume begin on March 15.

The magnetometer on board IMP 8, launched on October 26, 1973, consists of two fundamental units: (1) the basic magnetic field sensing head (at the end of an 11-foot boom), which is a three-axis saturable core fluxgate, and (2) a processor which controls the instrument, converts analog to digital signals, and encodes the data efficiently. The instrument is now operating in a fixed range of ± 36 nT full scale, and analog signals are quantized to 8-bit/axis digital data words, so that the quantization step size is ± 0.14 nT per axis. The magnetic field data is presented here in the form of 15.36-averages for the period March 15 to June 16, 1986, in spacecraft centered solar magnetospheric (SM) coordinates. They are displayed as B TOTAL, SM LONG, Φ , and SM B_z , where B TOTAL is the magnitude, Φ is the longitude, measured in the SM X-Y plane such that $\Phi=0^\circ$ is sunward, and B_z is the Z-component of the field. The data processing system, and other characteristics of this experiment, are described by Mish and Lepping, NASA-GSFC X 695-76-158, August 1976.

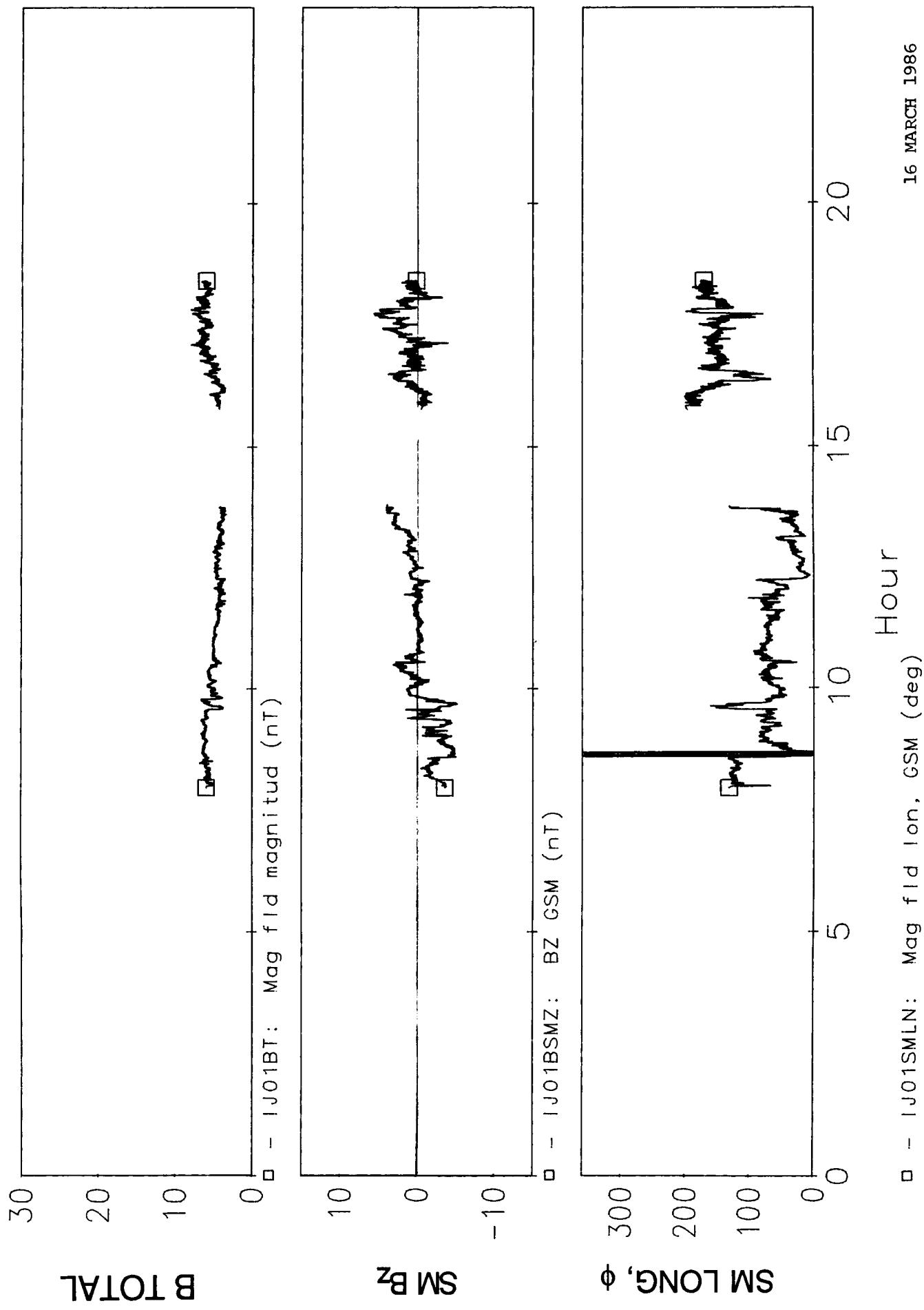
Dates and hours of bow shock crossings were identified with the help of the plasma data (MIT) and were published in Volume 4 of this series, which contains plots of plasma parameters. The observed crossing times agree satisfactorily with predictions based on a model magnetosphere; the predicted times are listed in Volume 1 of this series. The bow shock crossing times that were identified in the plasma data are well corroborated by the magnetic field data in this volume. (The solar wind side of the bow shock is marked by the lower field intensity.) The crossing times are reproduced here, for convenience.

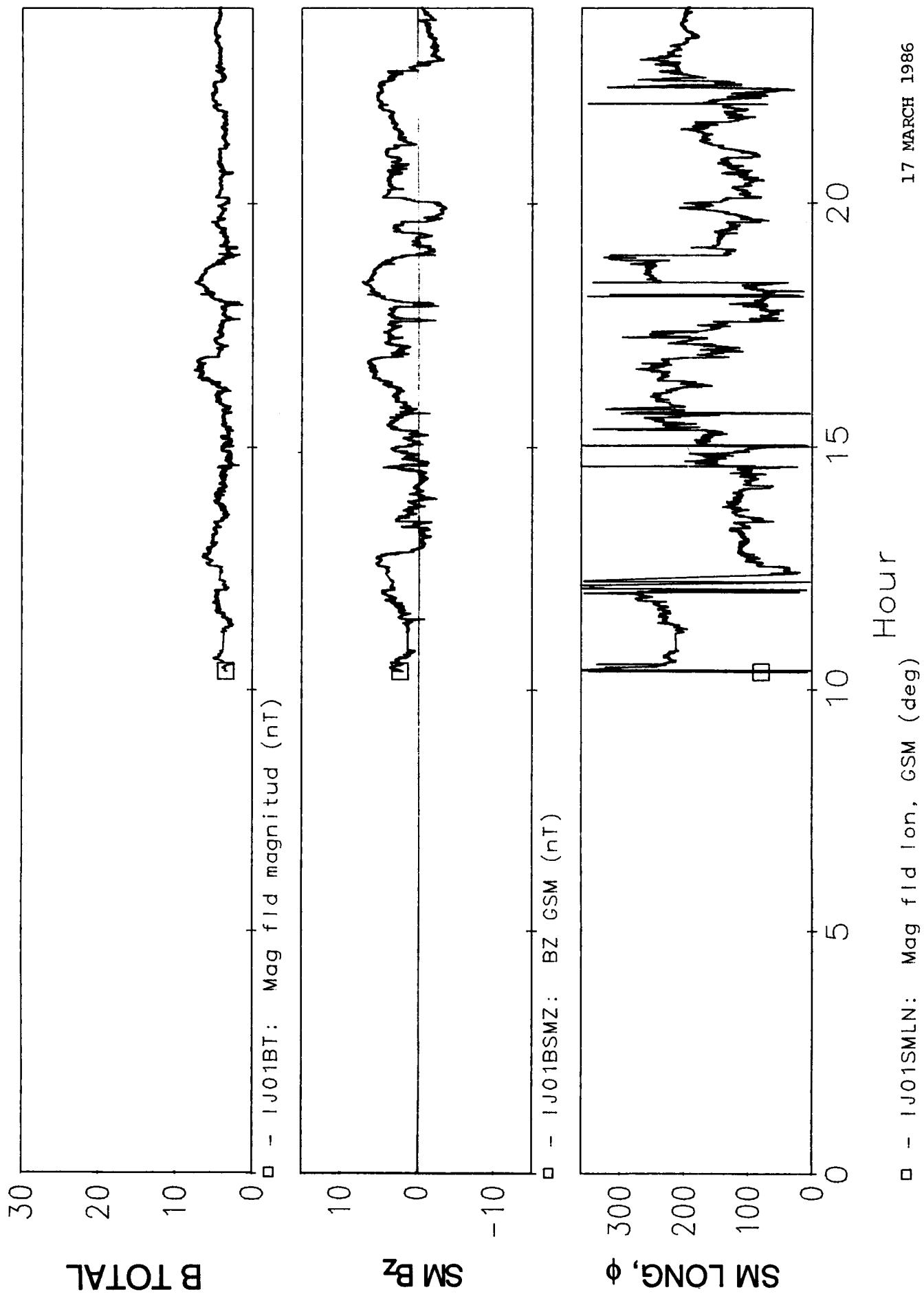
| | <u>Day/Hour of Crossings Observed in Plasma Data</u> | <u>Day/Hour of Predicted Crossing</u> |
|-----|--|---|
| 1) | Between Mar. 14/12 and Mar. 15/06* | N/A |
| 2) | Mar. 23/04 | N/A |
| 3) | Mar. 27/07 (10?) | Mar. 27/11 |
| 4) | Apr. 04/15 | Apr. 04/11 |
| 5) | Between Apr. 08/19 and Apr. 09/00* | Apr. 09/00 |
| 6) | Multiple Apr. 16/19, Apr. 17/04 | Apr. 17/01 |
| 7) | Between Apr. 21/12 and Apr. 22/00* | Apr. 21/18 |
| 8) | Apr. 29/19 | Apr. 29/20 |
| 9) | May 04/10 | May 04/14 |
| 10) | Between May 12/22 and May 13/18* | May 12/18 |
| 11) | May 17/08 | May 17/07 |
| 12) | May 25/16 | May 25/11 |
| 13) | Between May 29/15 and May 29/18* | May 29/17 |
| 14) | Multiple June. 07/00, June. 07/04 | Jun. 06/21 |
| 15) | Between Jun. 10/14 and Jun. 11/08* | Jun. 10/21 |

(*Crossing occurred during data gap)

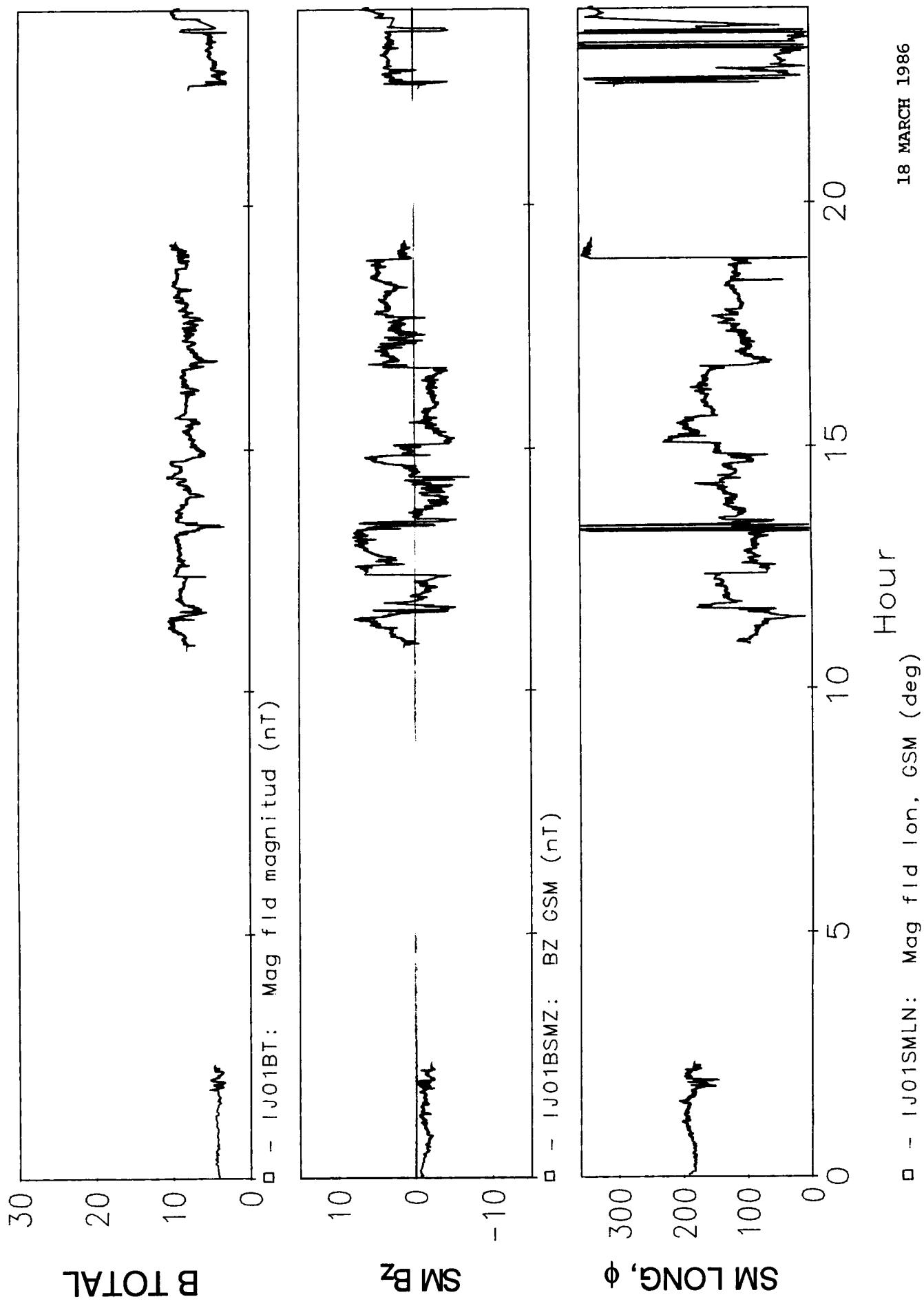


15 MARCH 1986

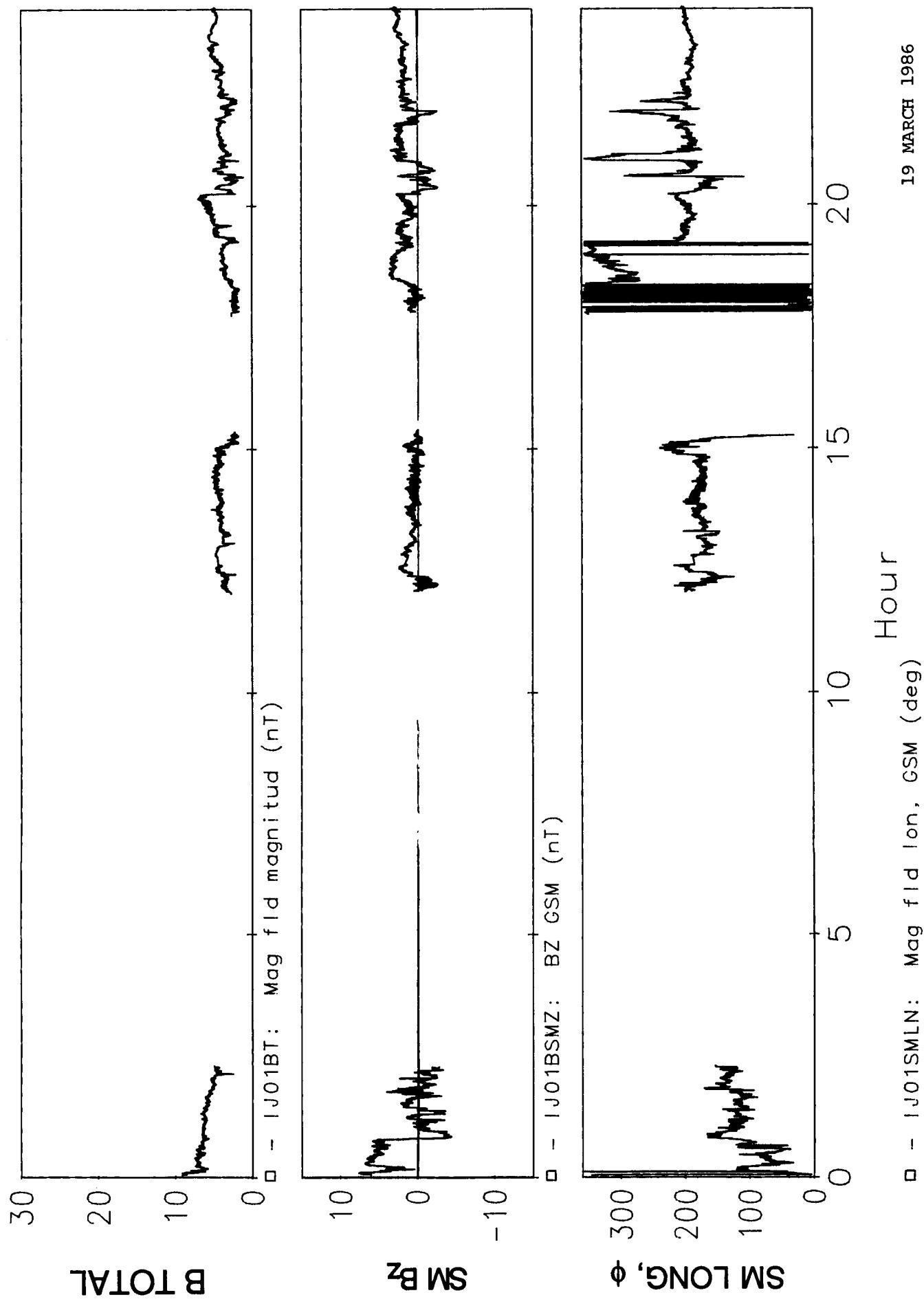


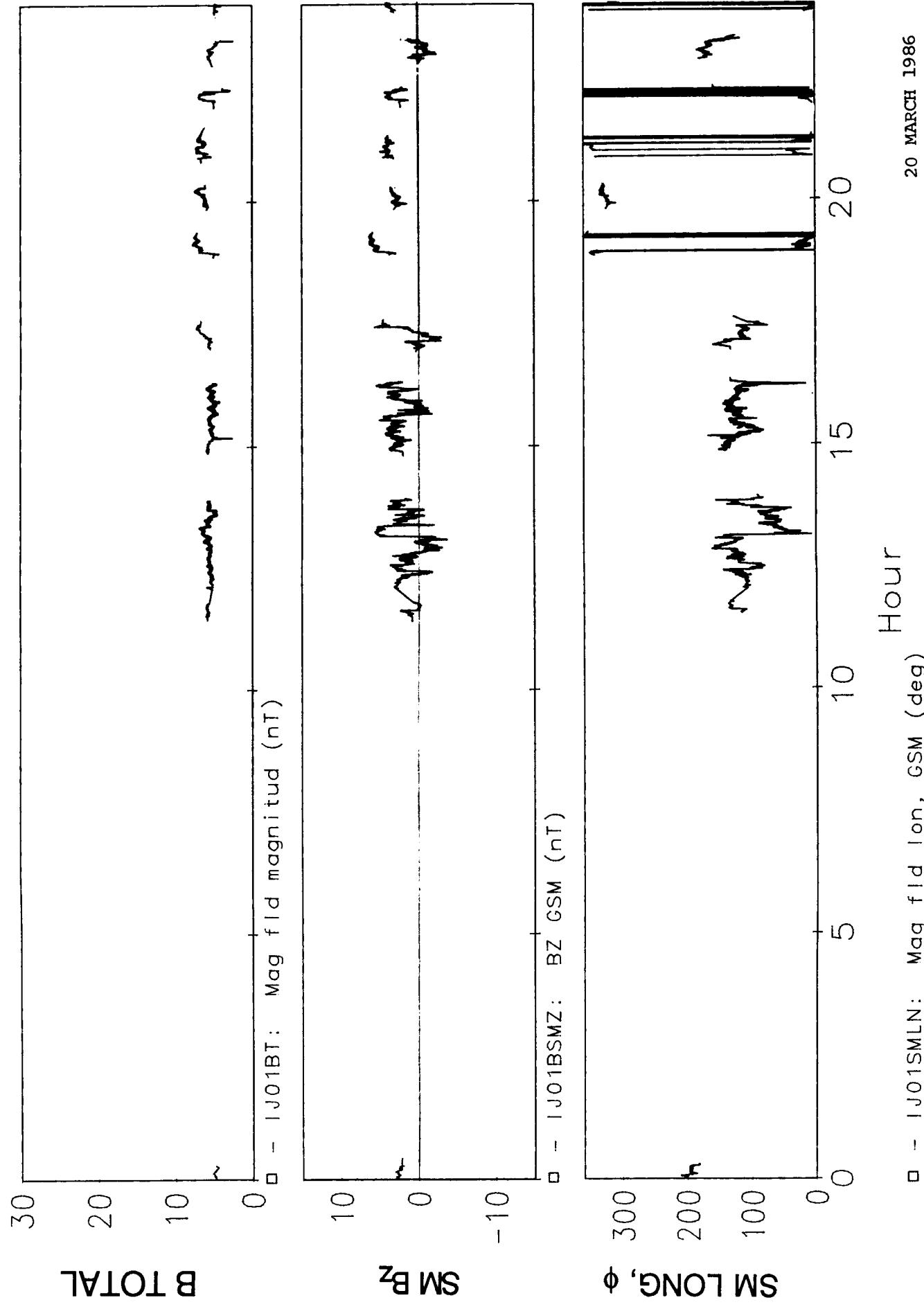


117 MARCH 1986



18 MARCH 1986

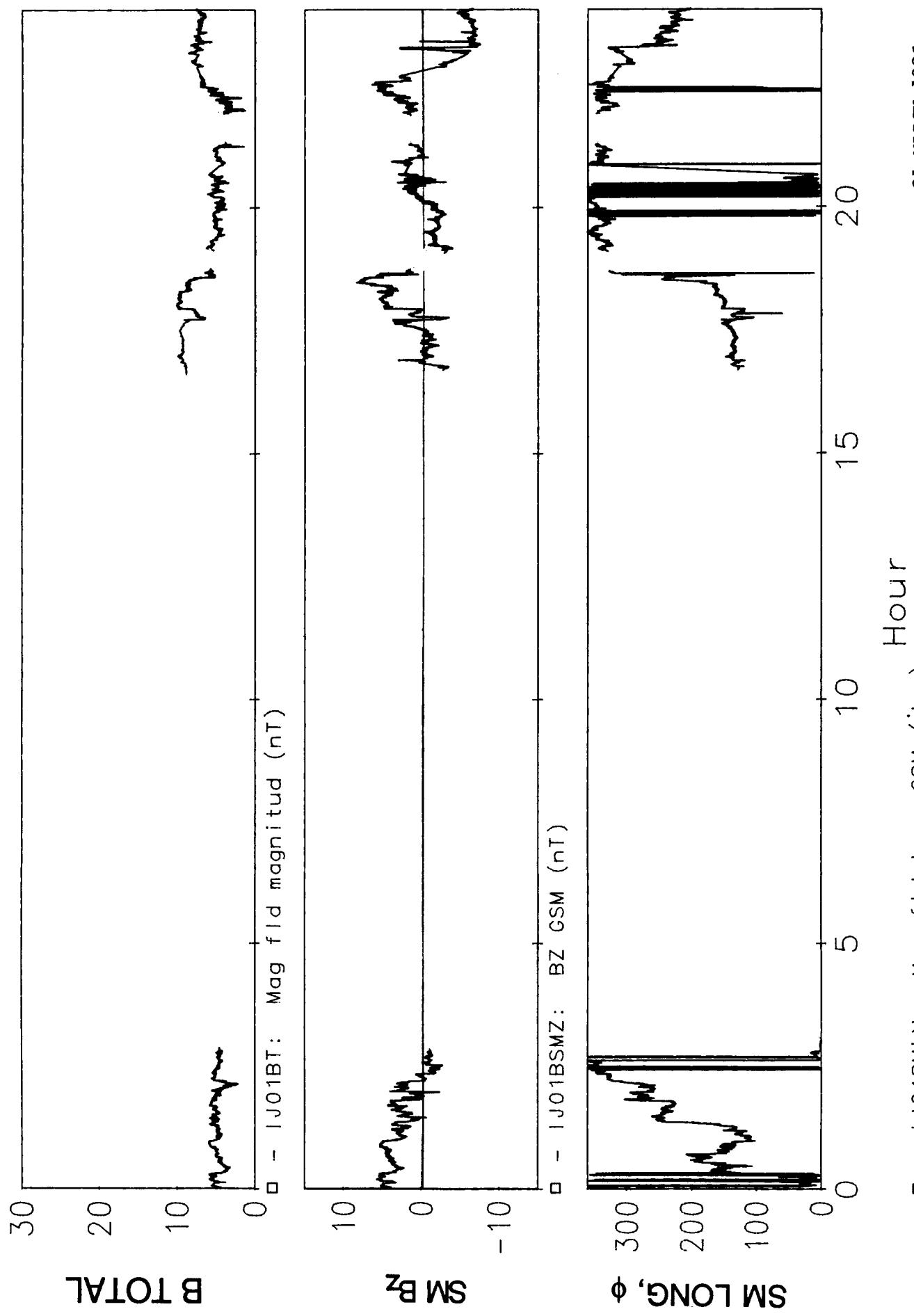




□ - IJ01SMLN: Mag field lon, GSM (deg)

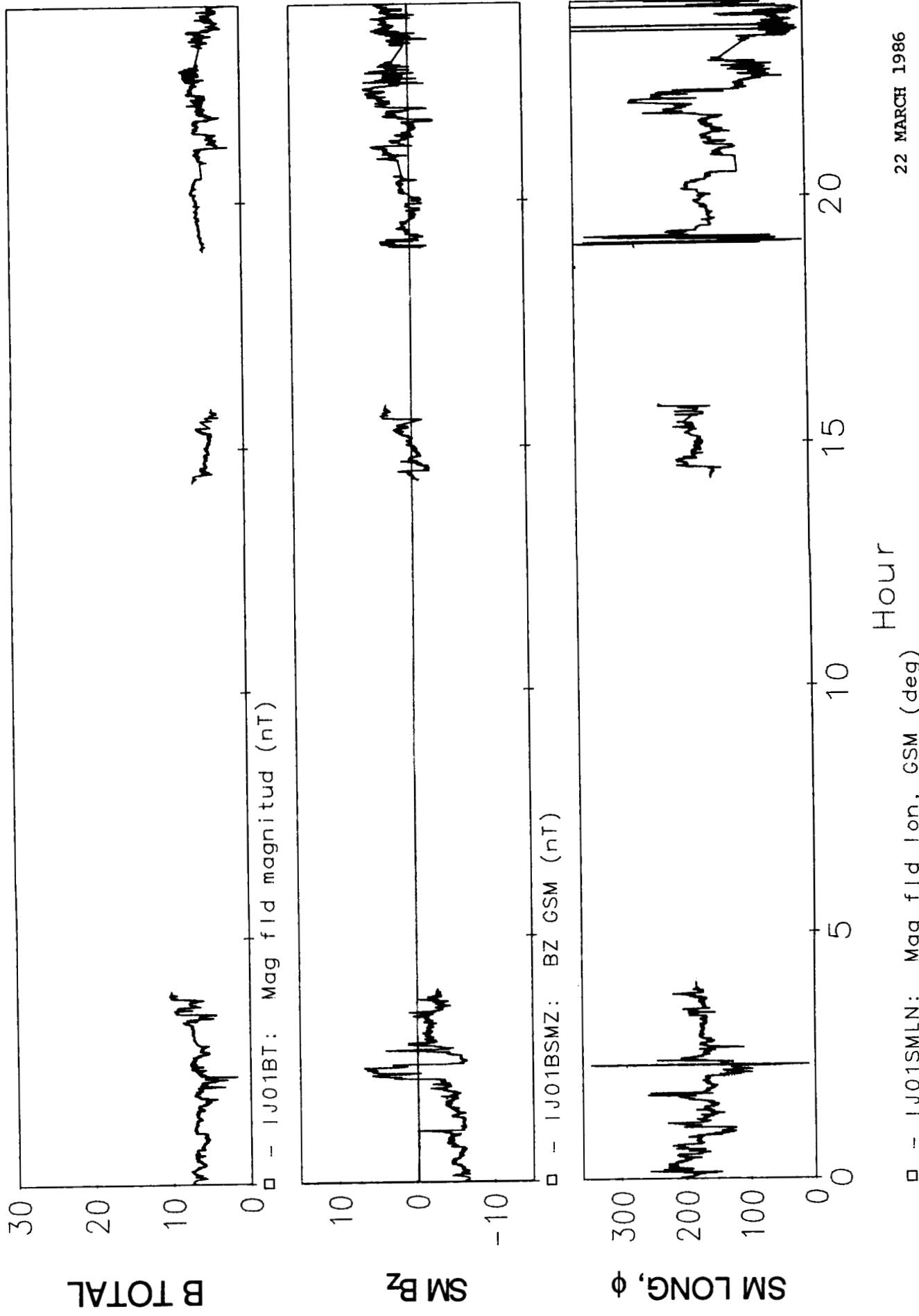
Hour

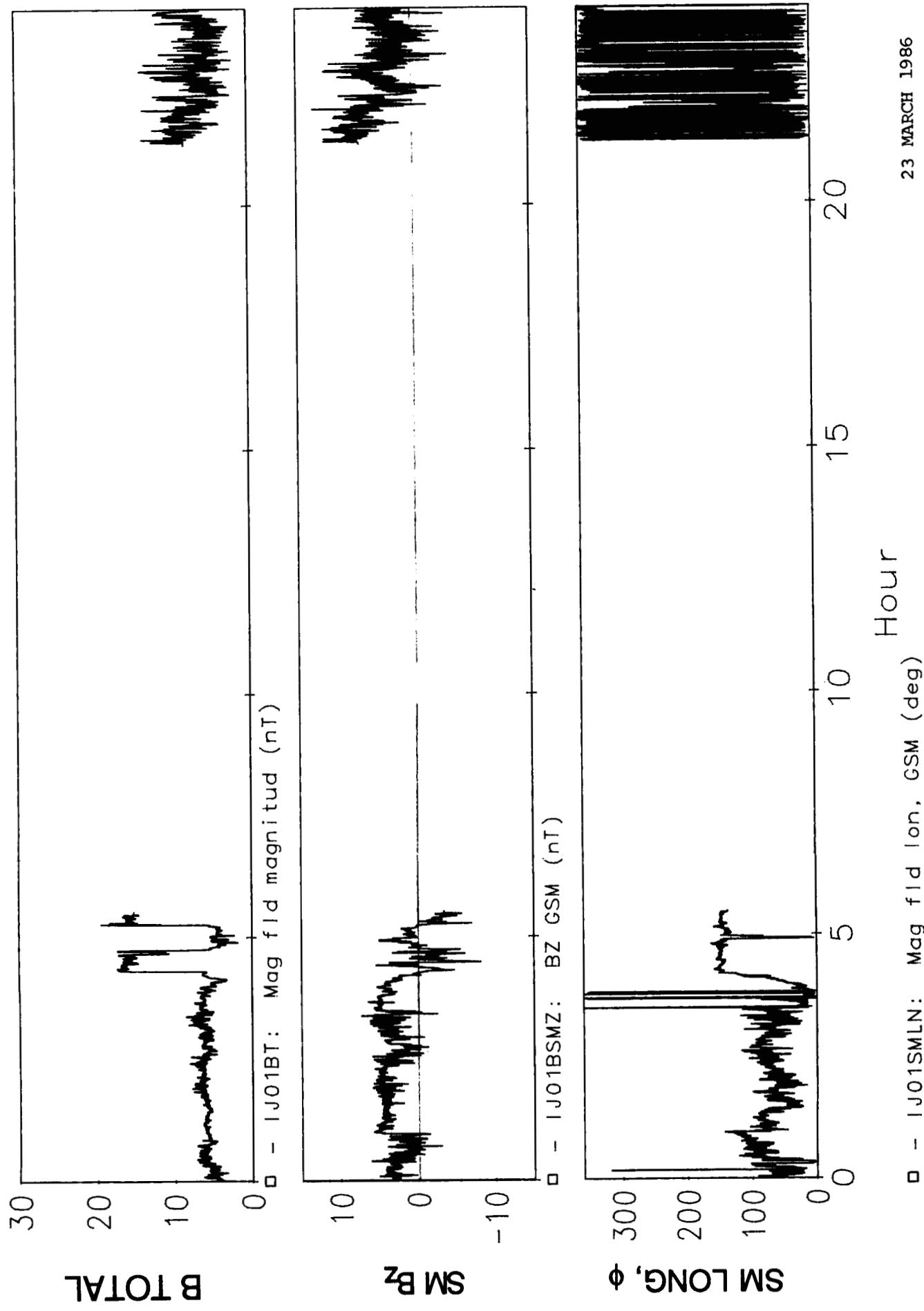
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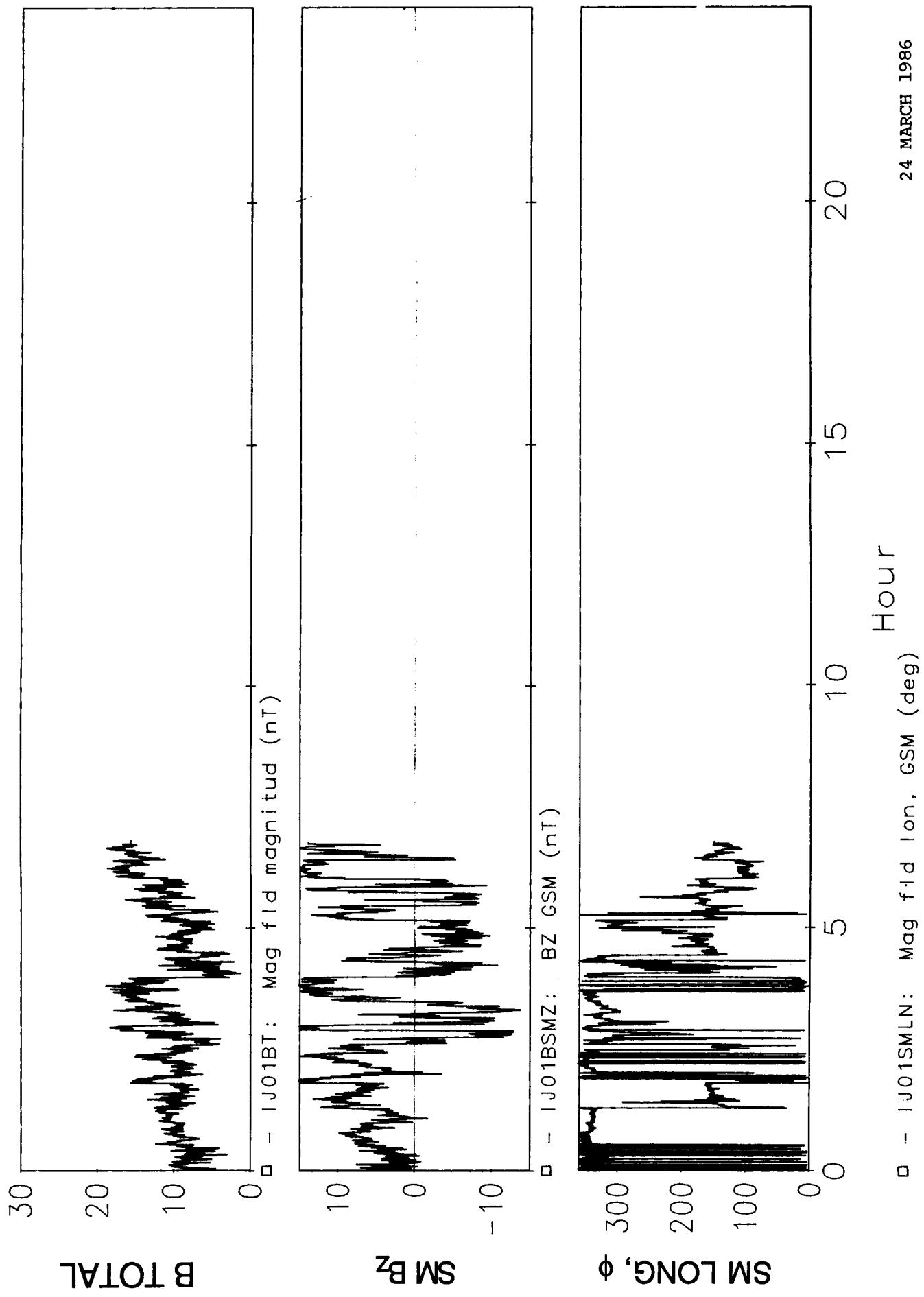


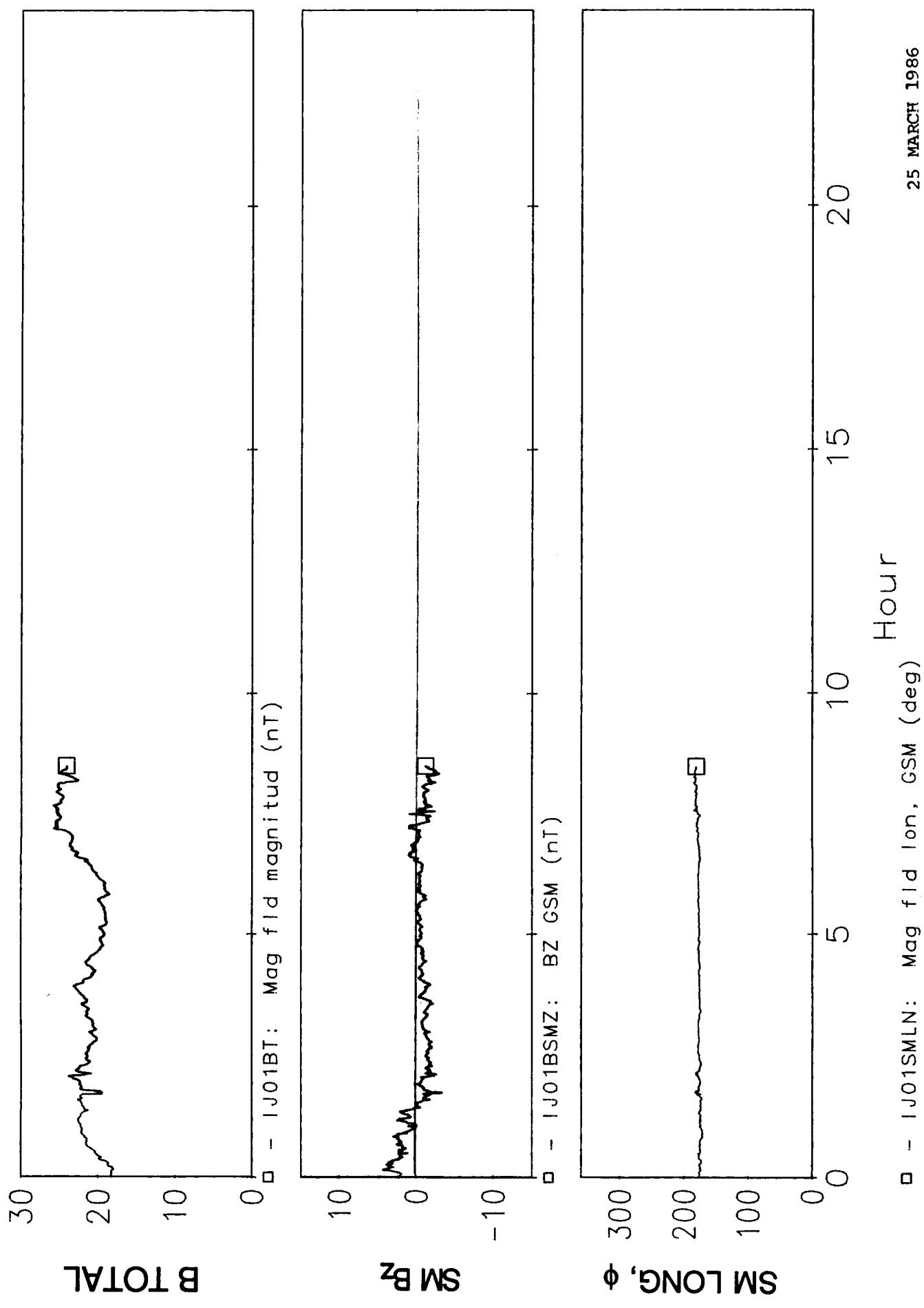
21 MARCH 1986

IJ01SMLN: Mag field, GSM (deg) Hour

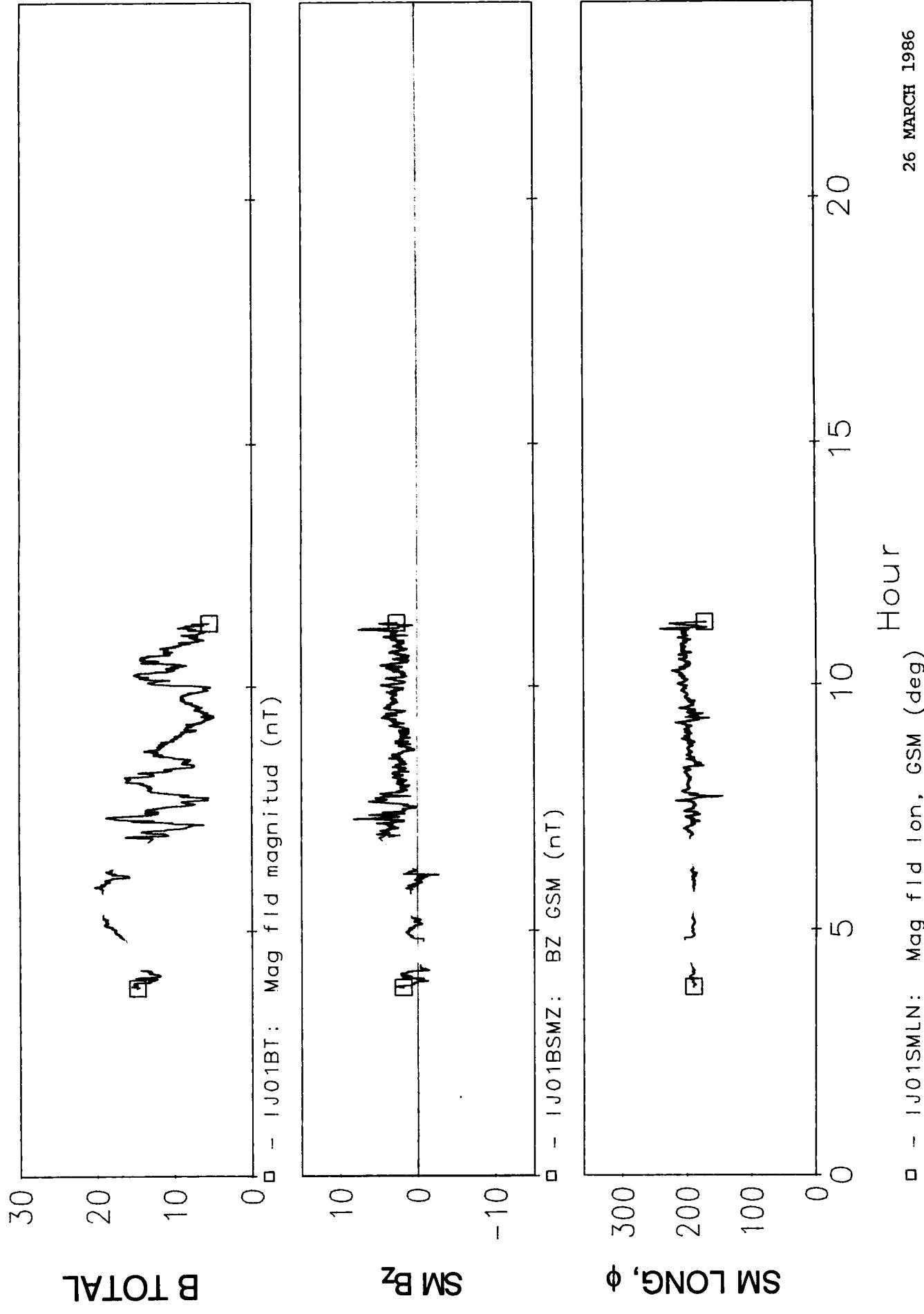


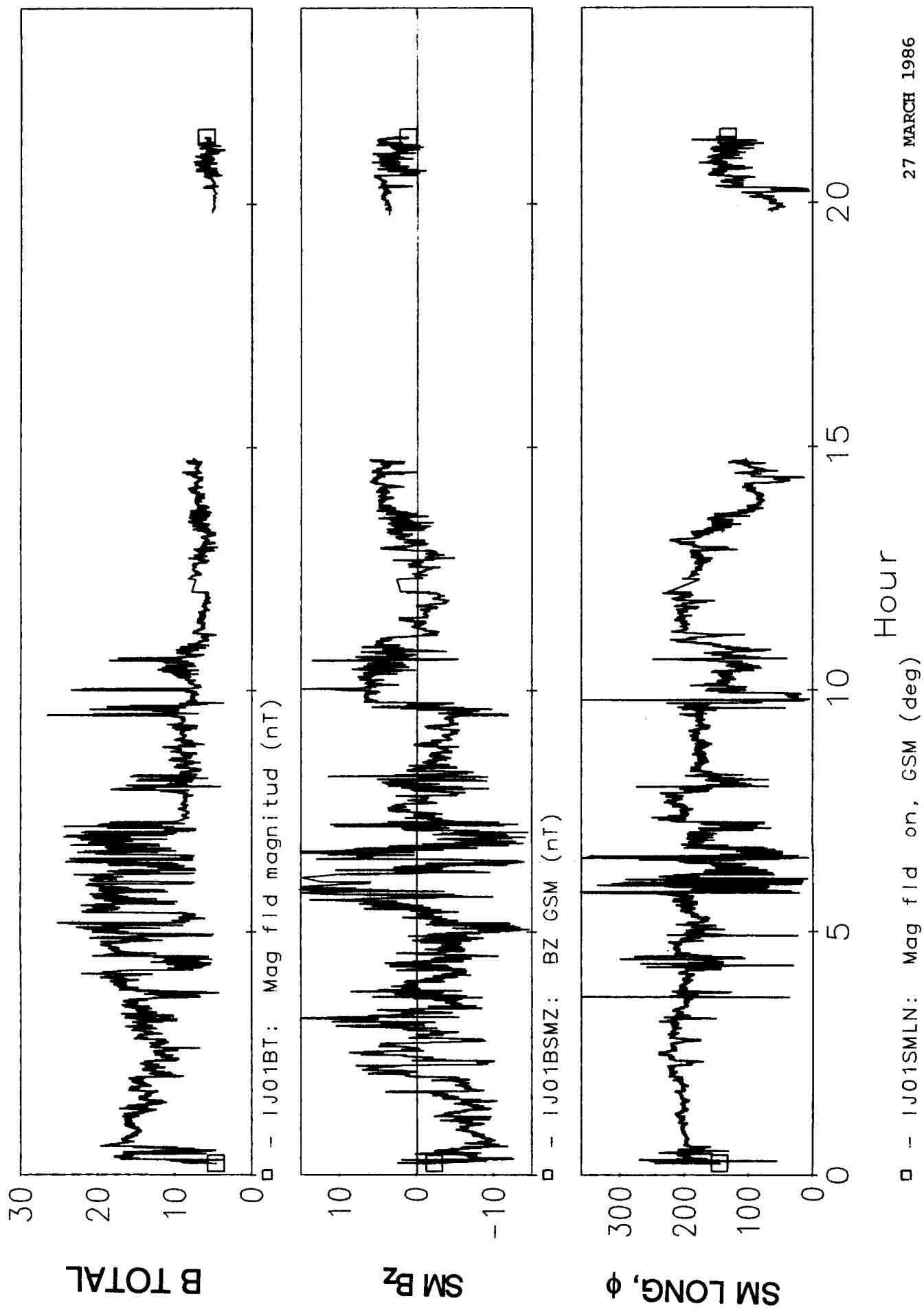




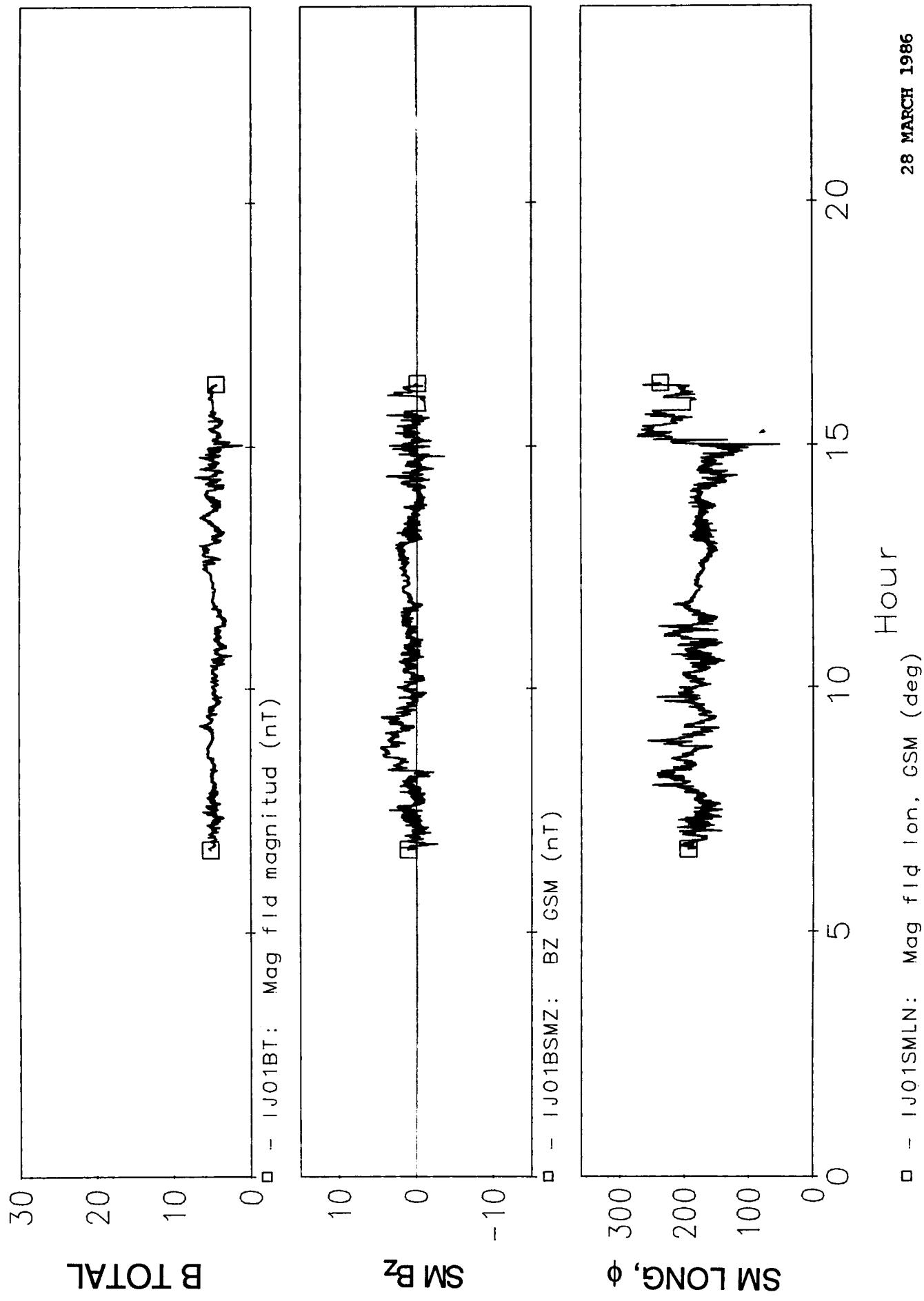


25 MARCH 1986

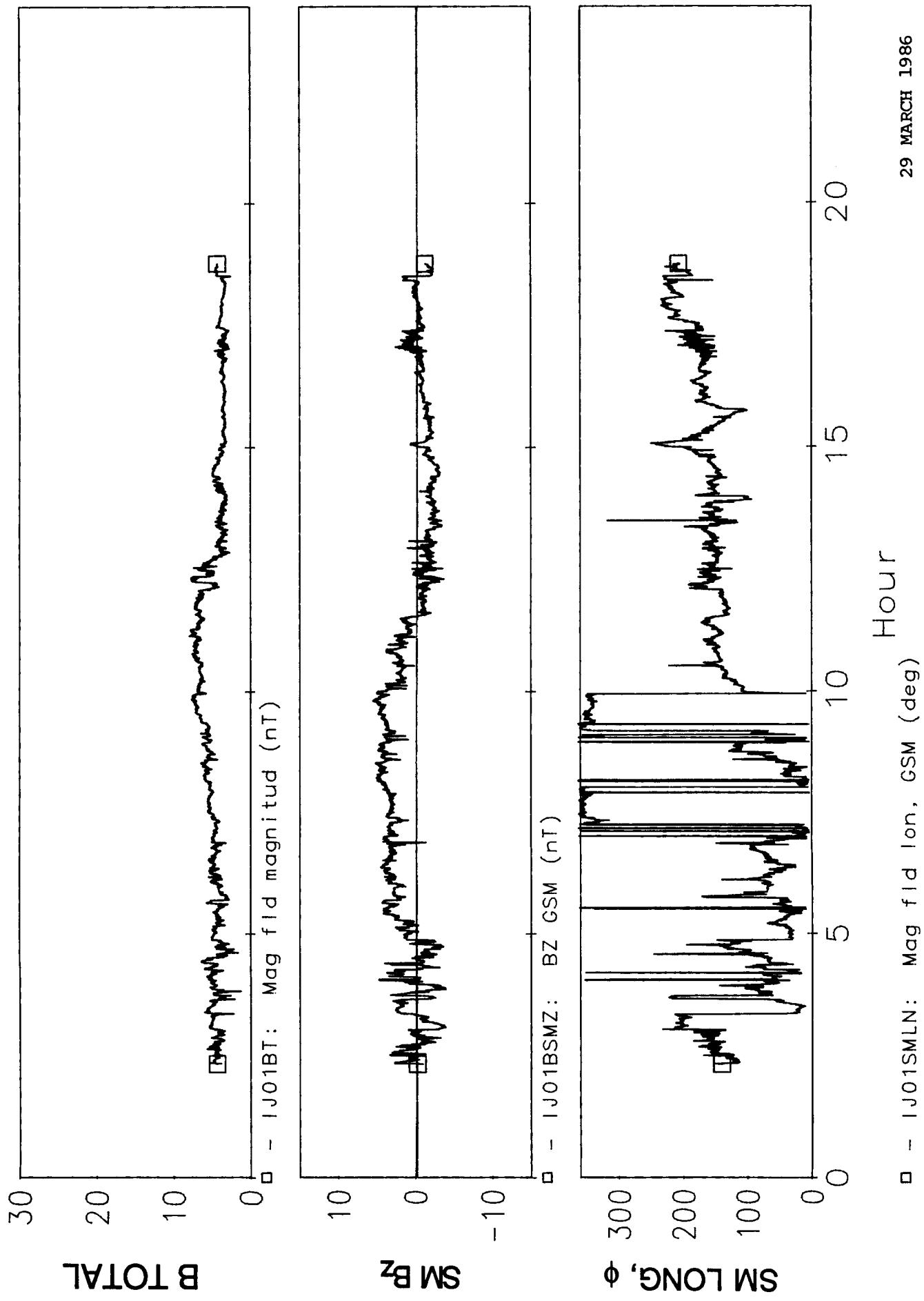




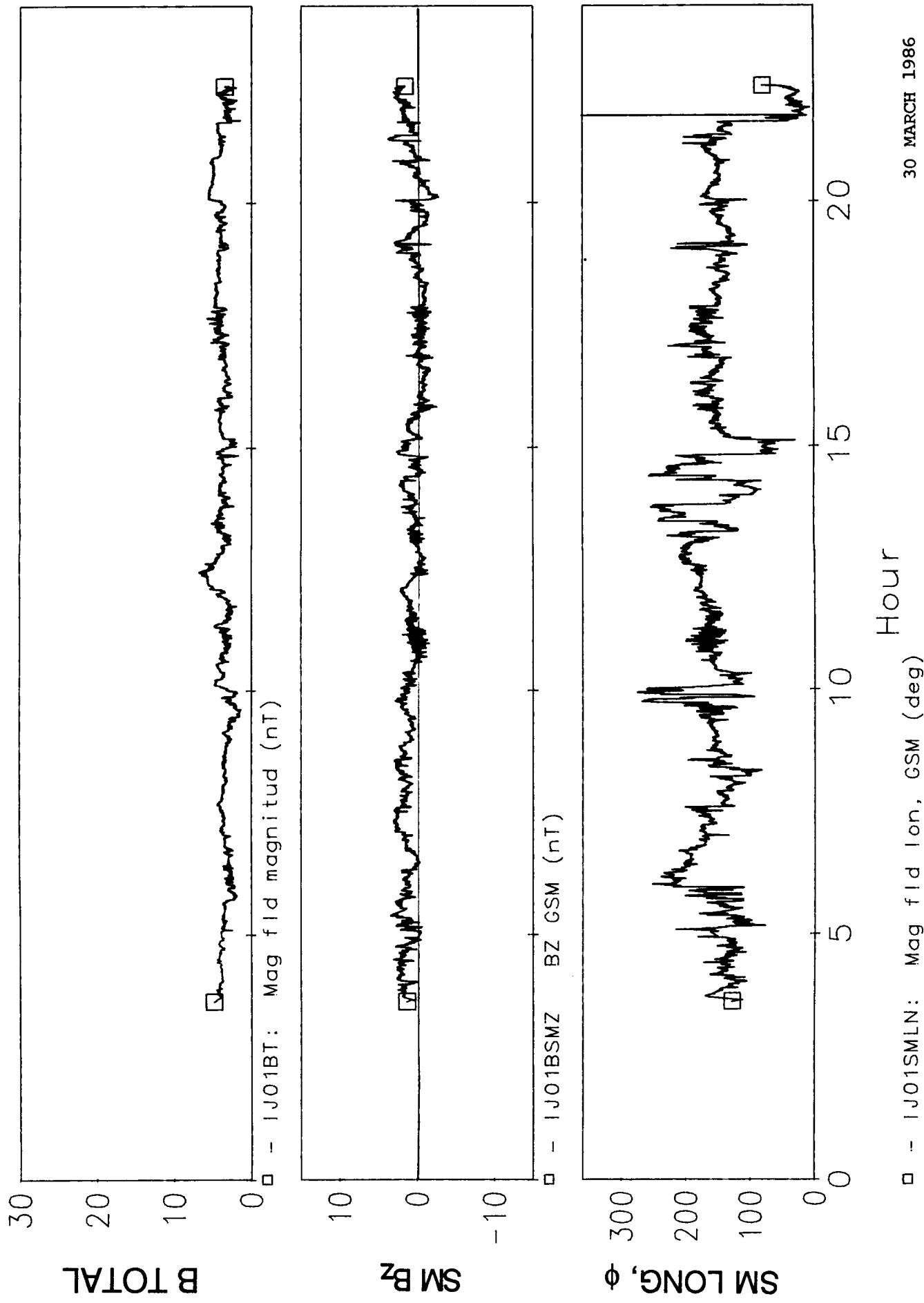
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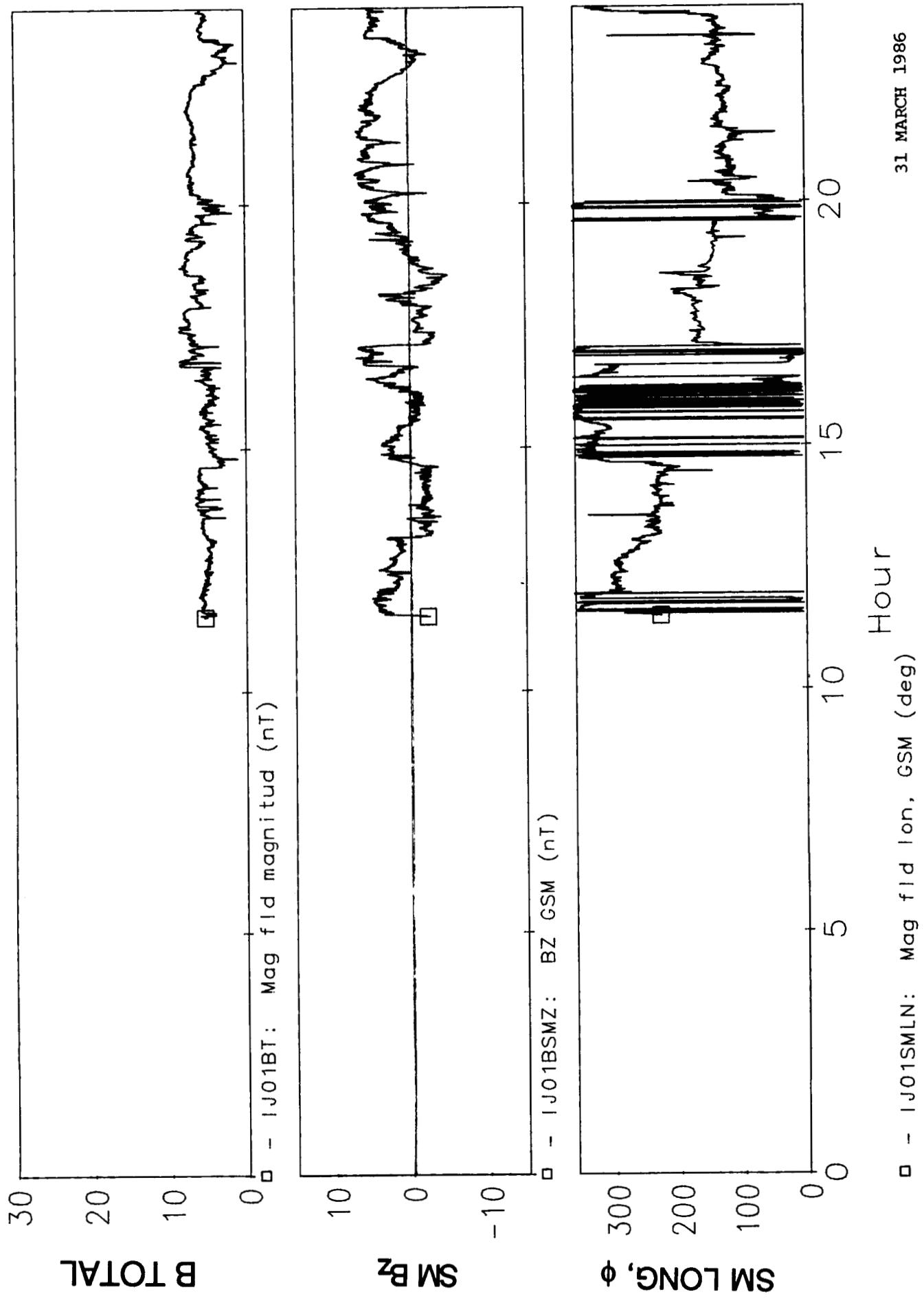


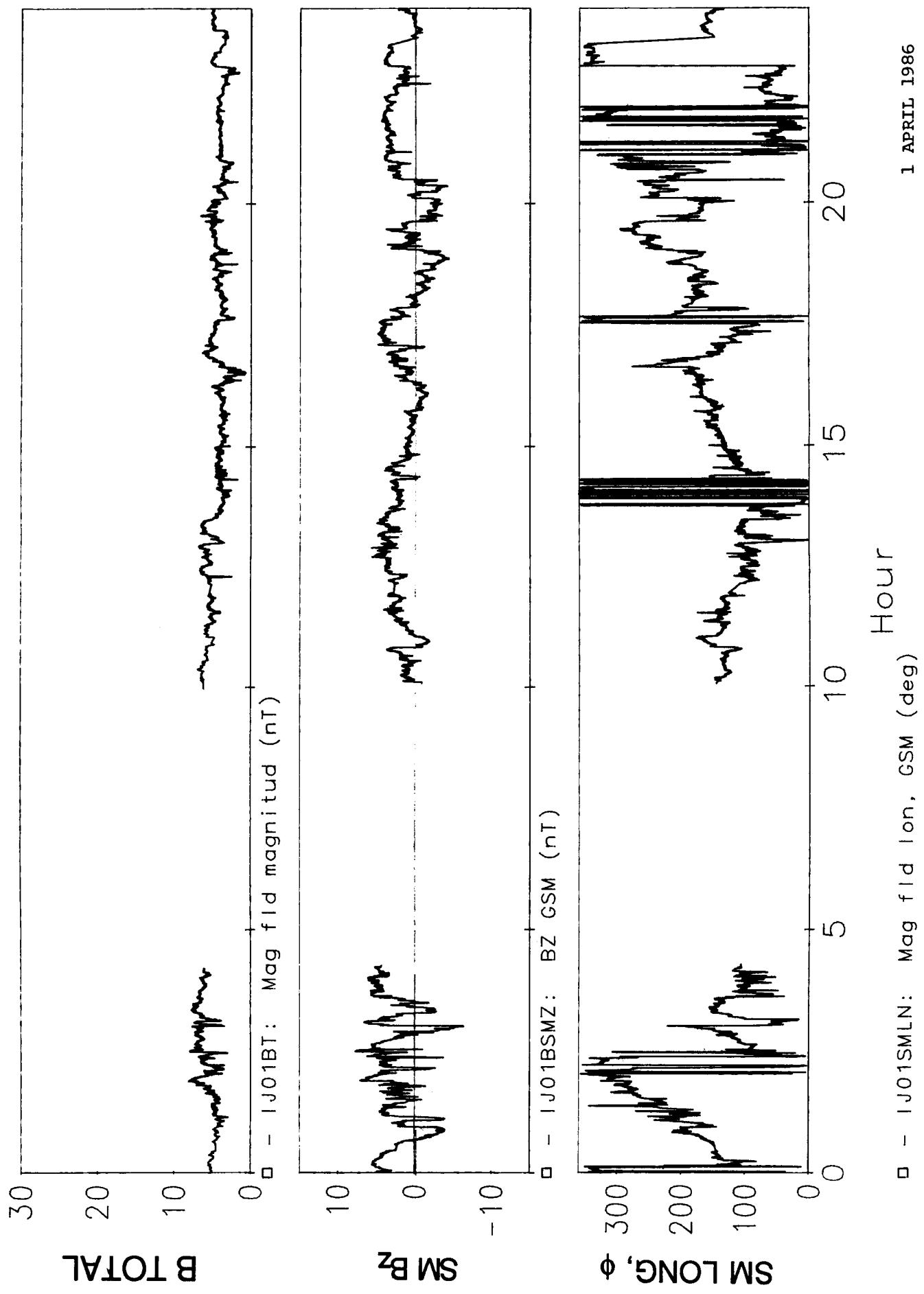
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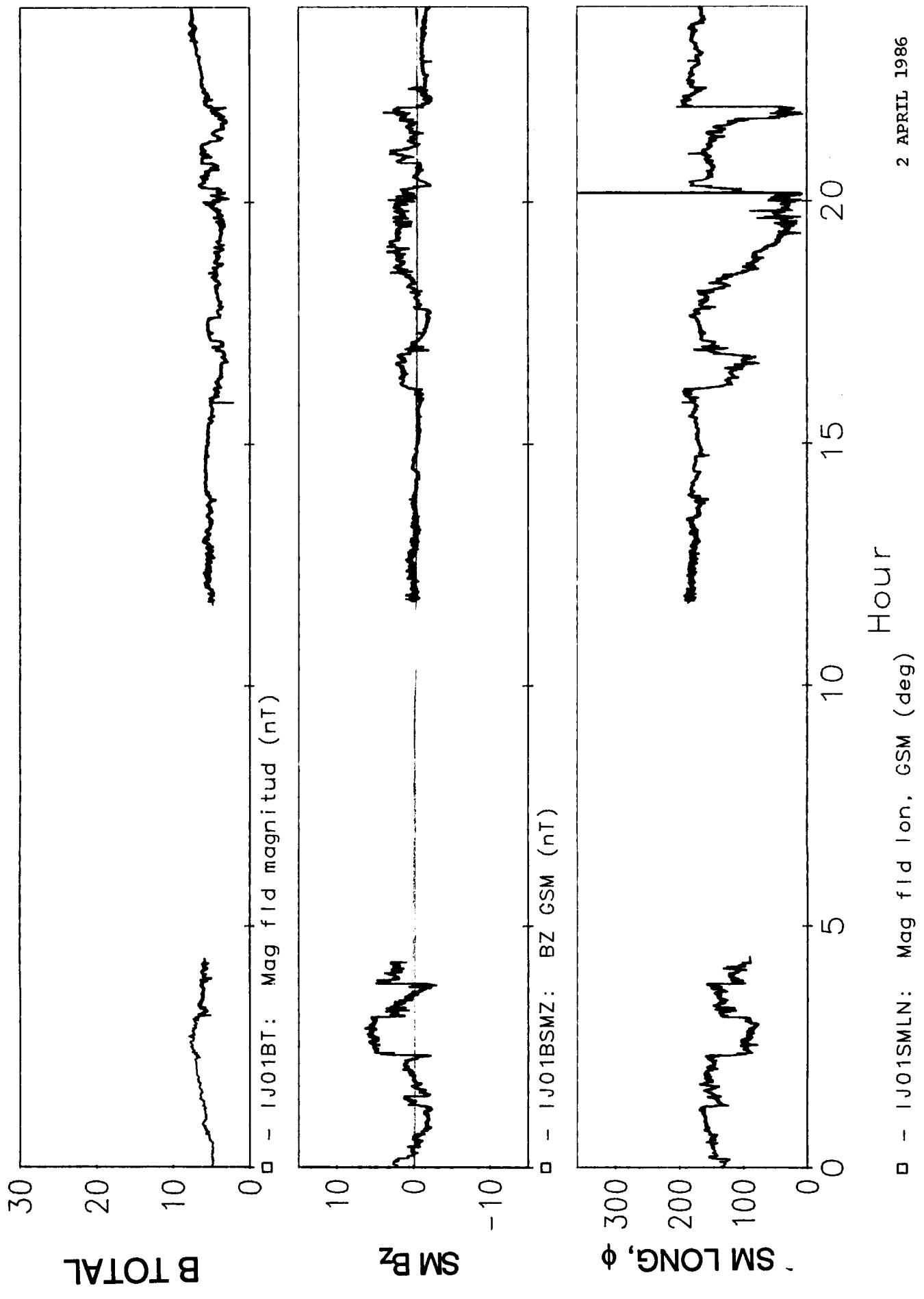


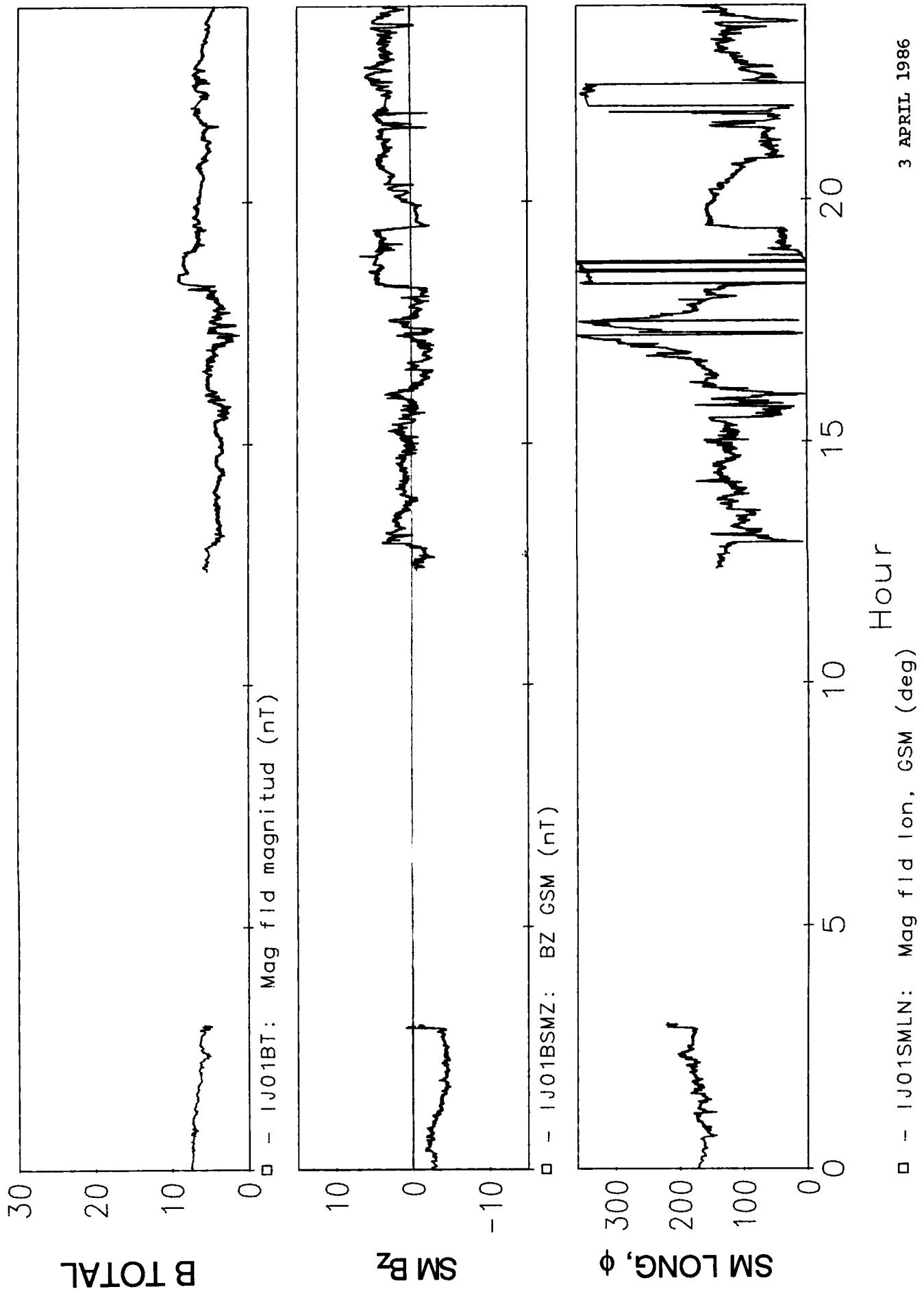
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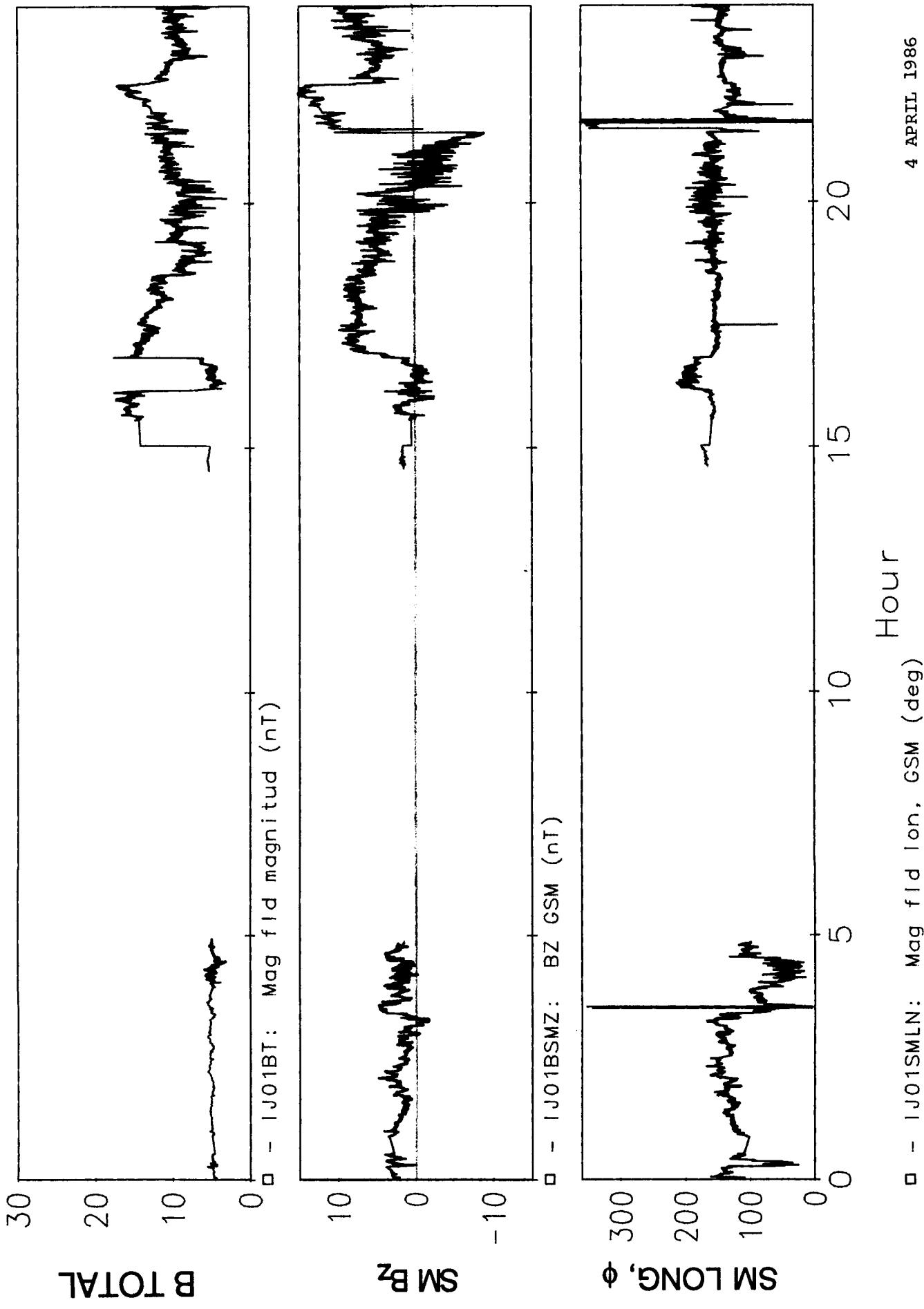


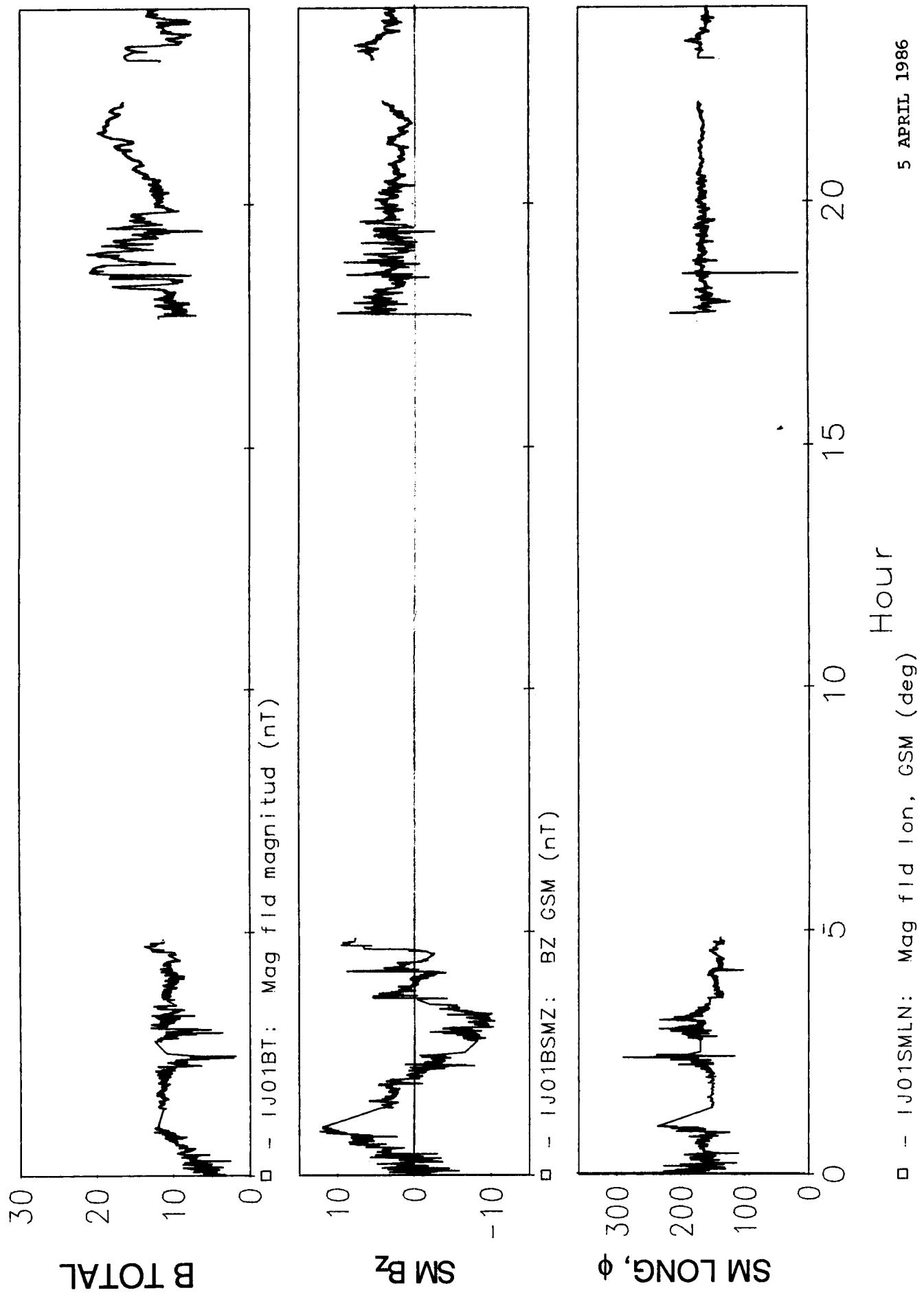


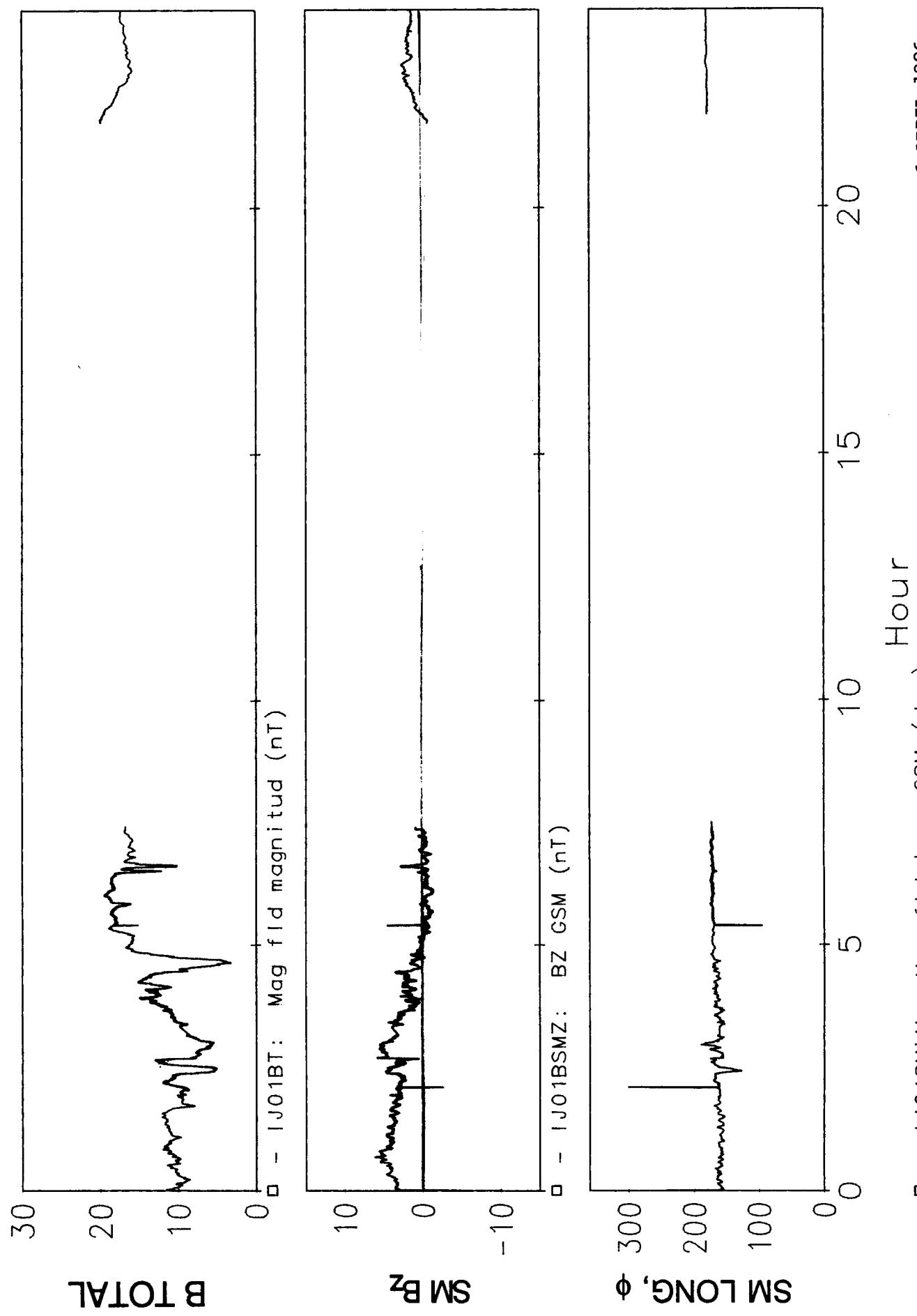




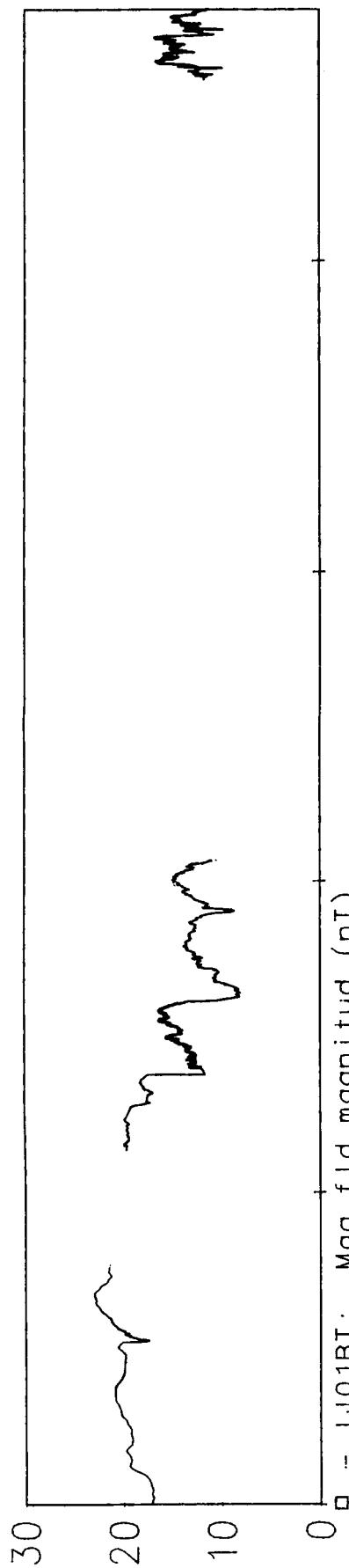
3 APRIL 1986



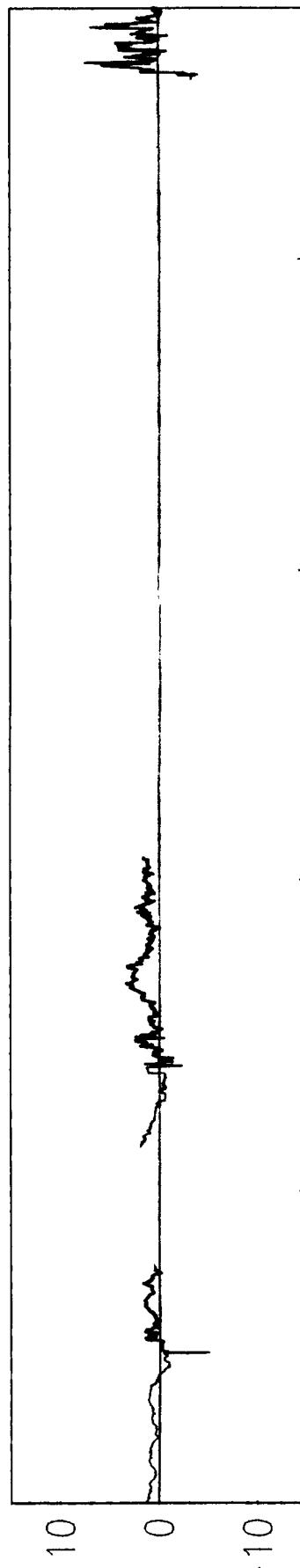




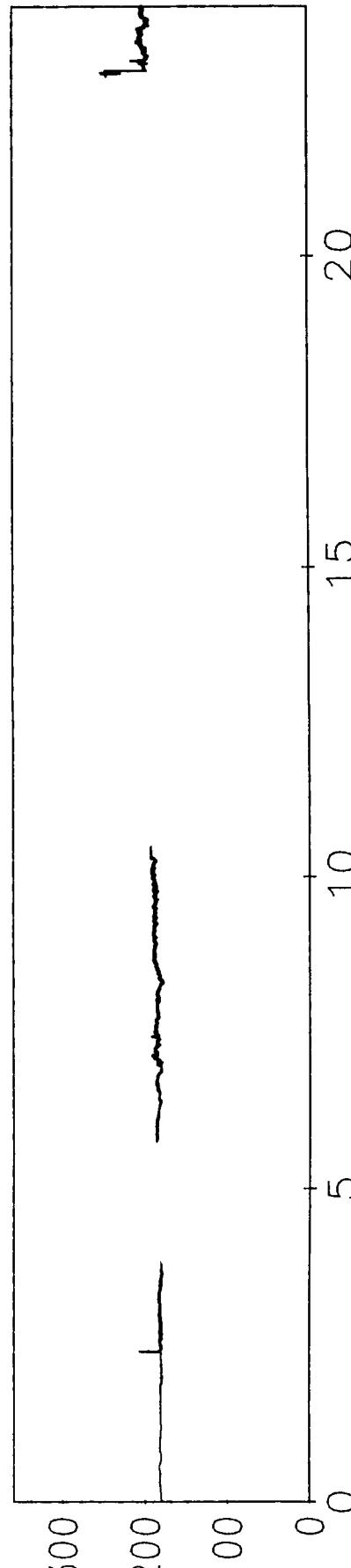
6 APRIL 1986



B TOTAL



SM B_z

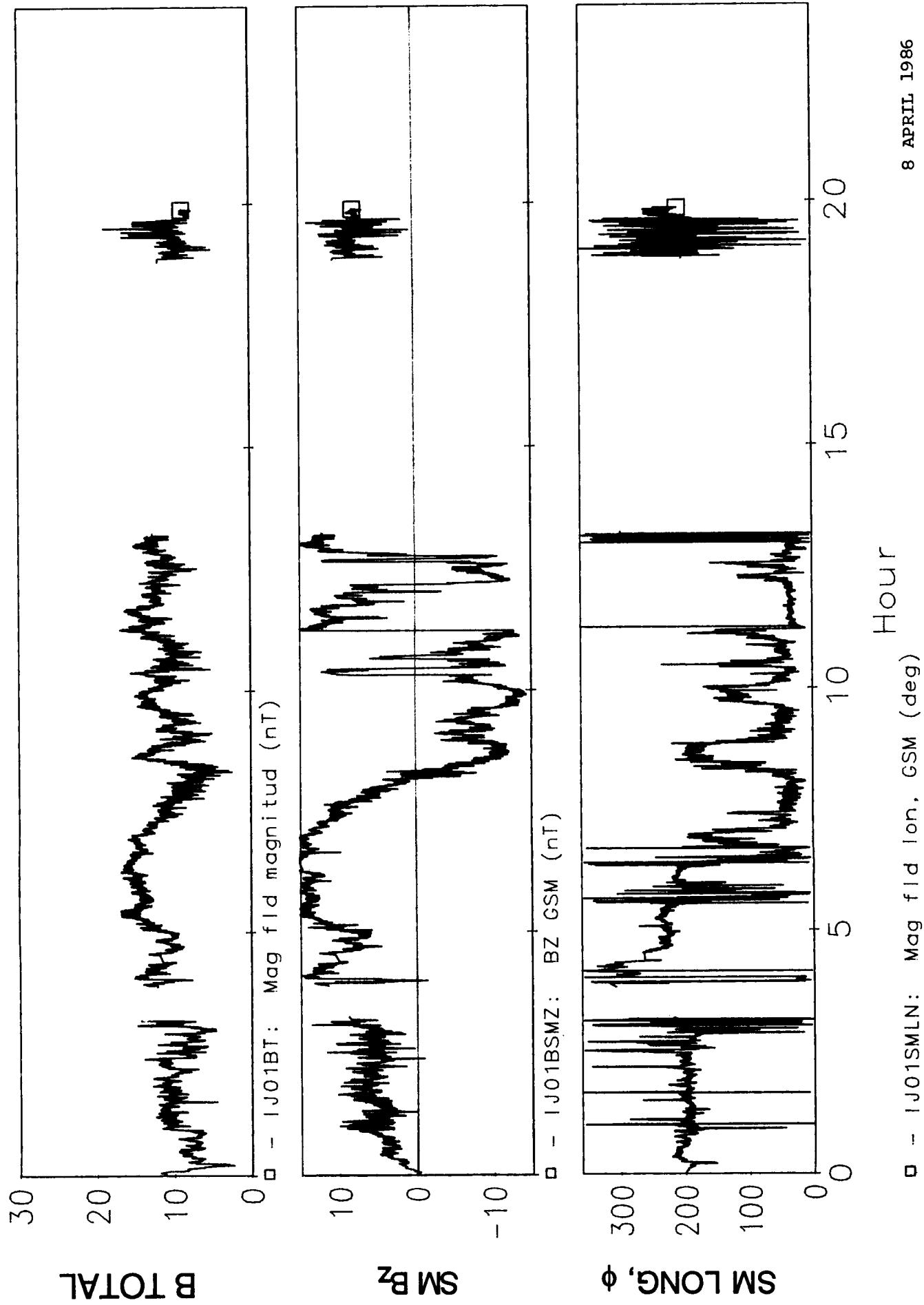


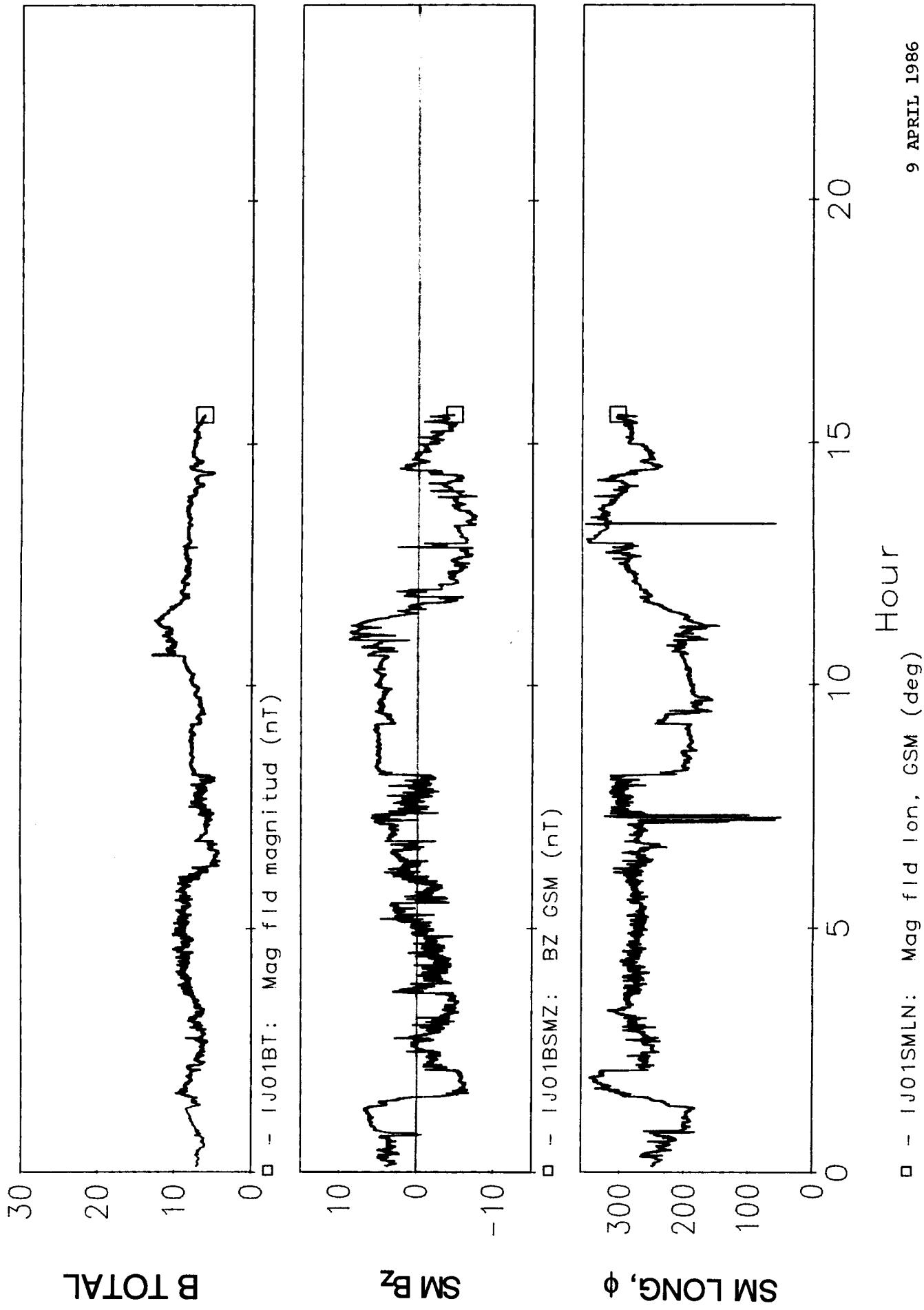
SM LONG, ϕ

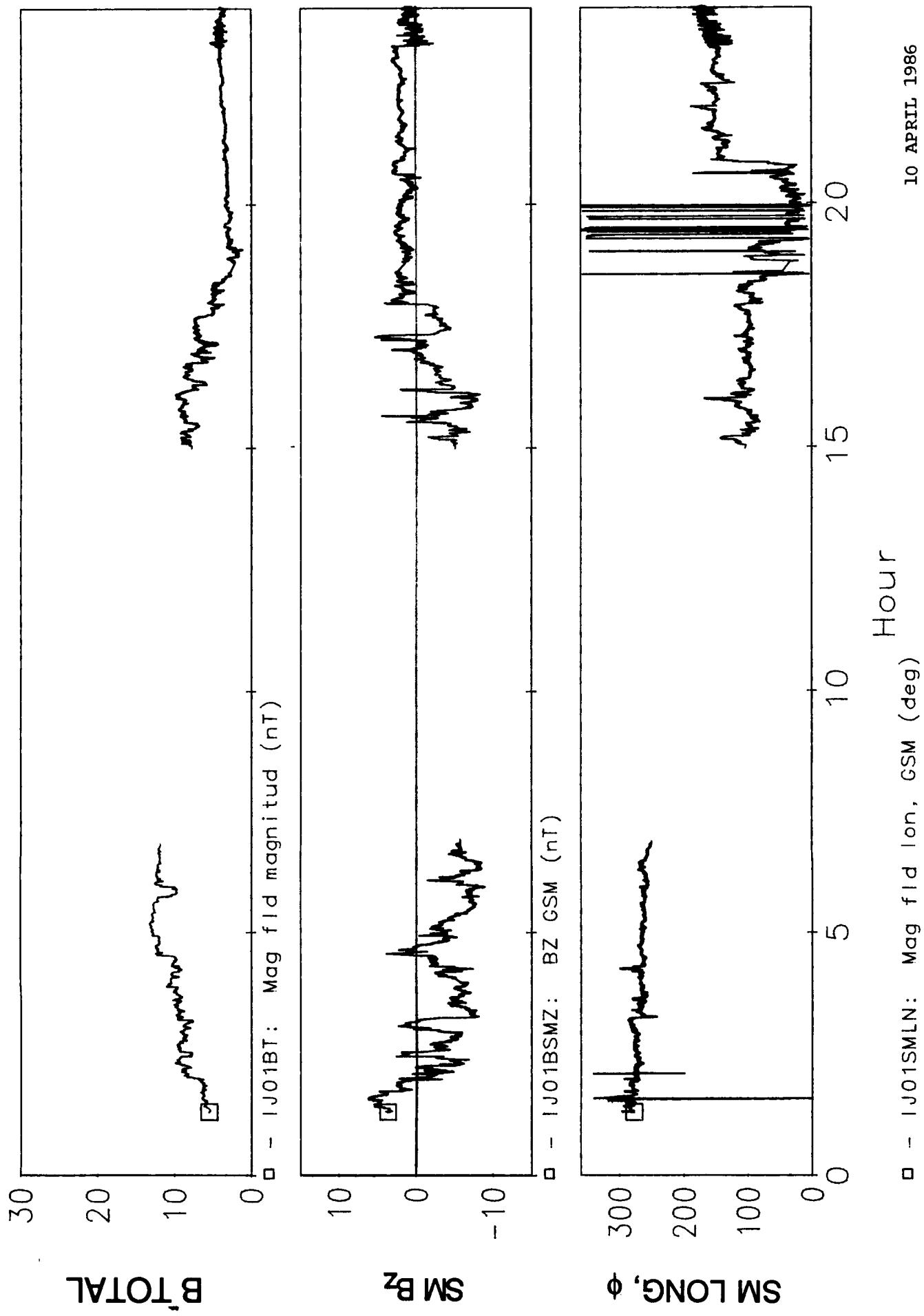
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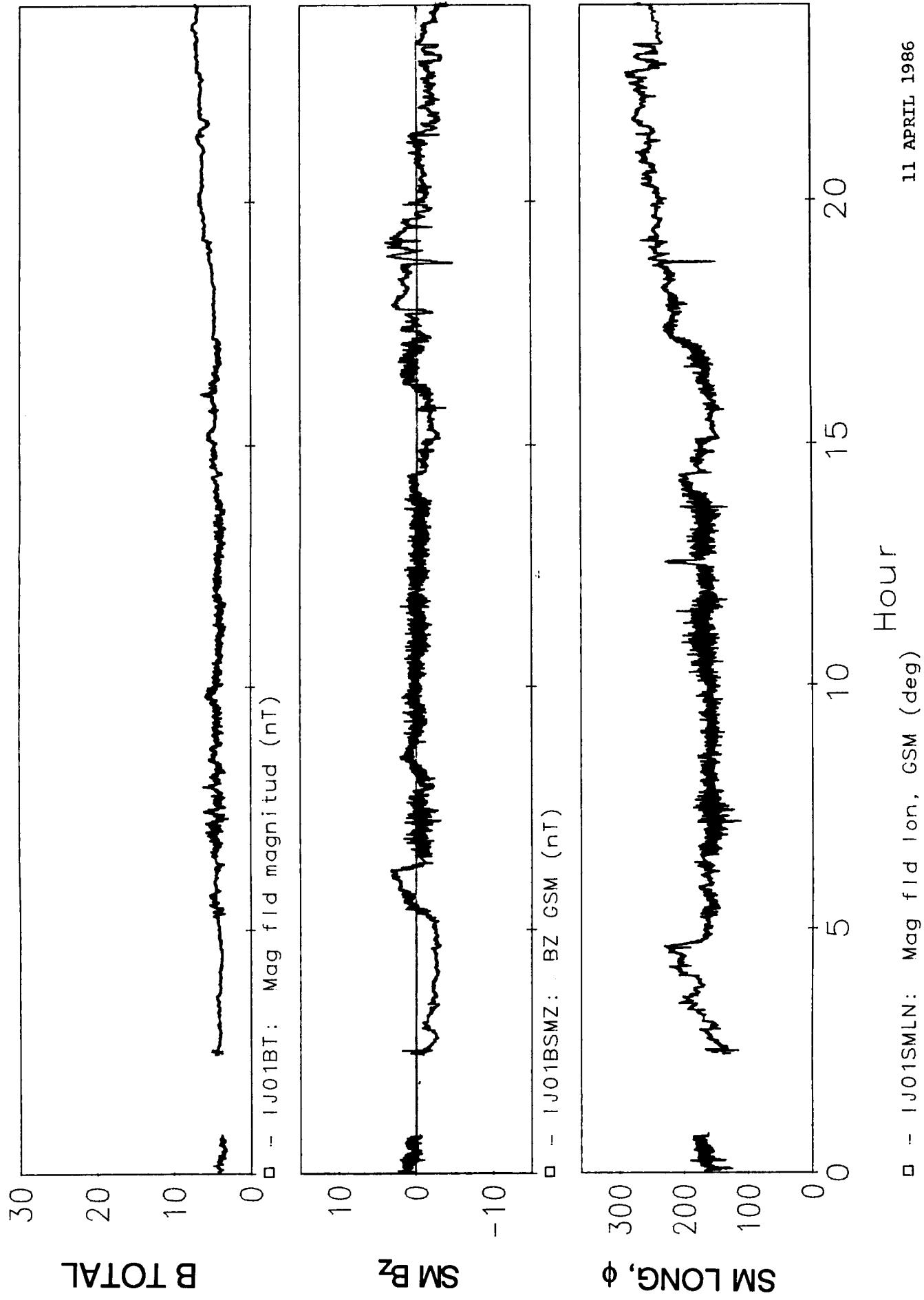
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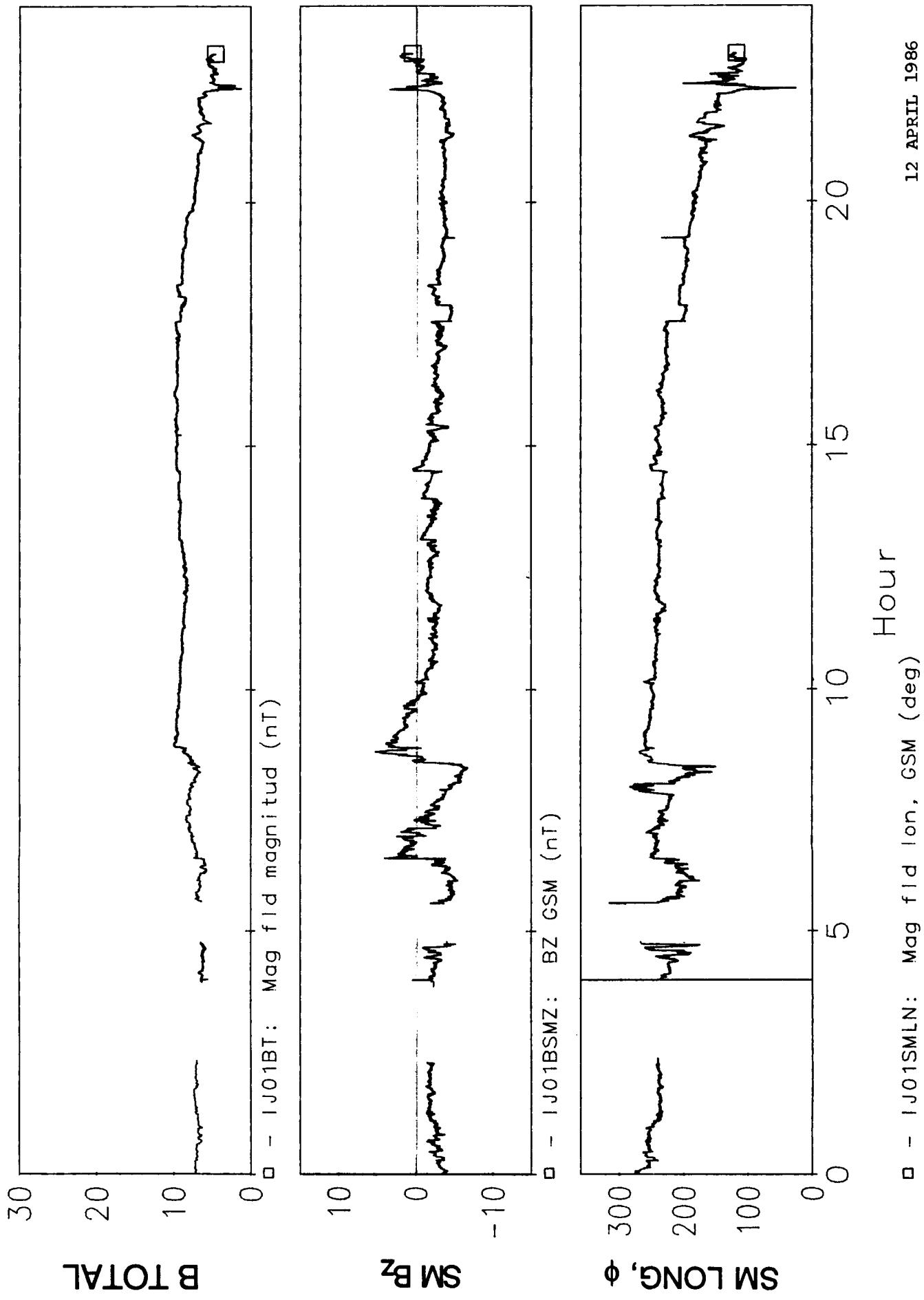
7 APRIL 1986

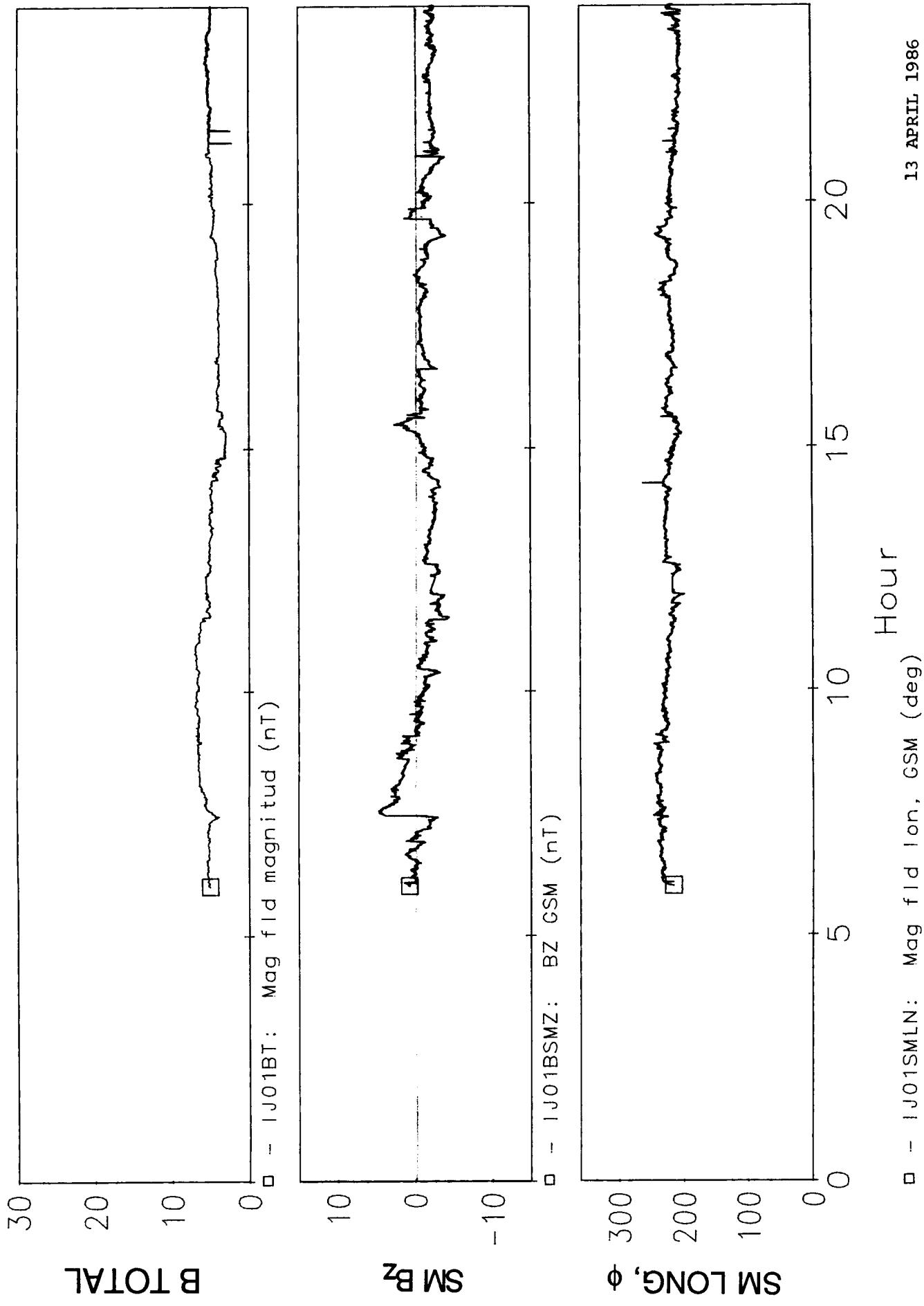


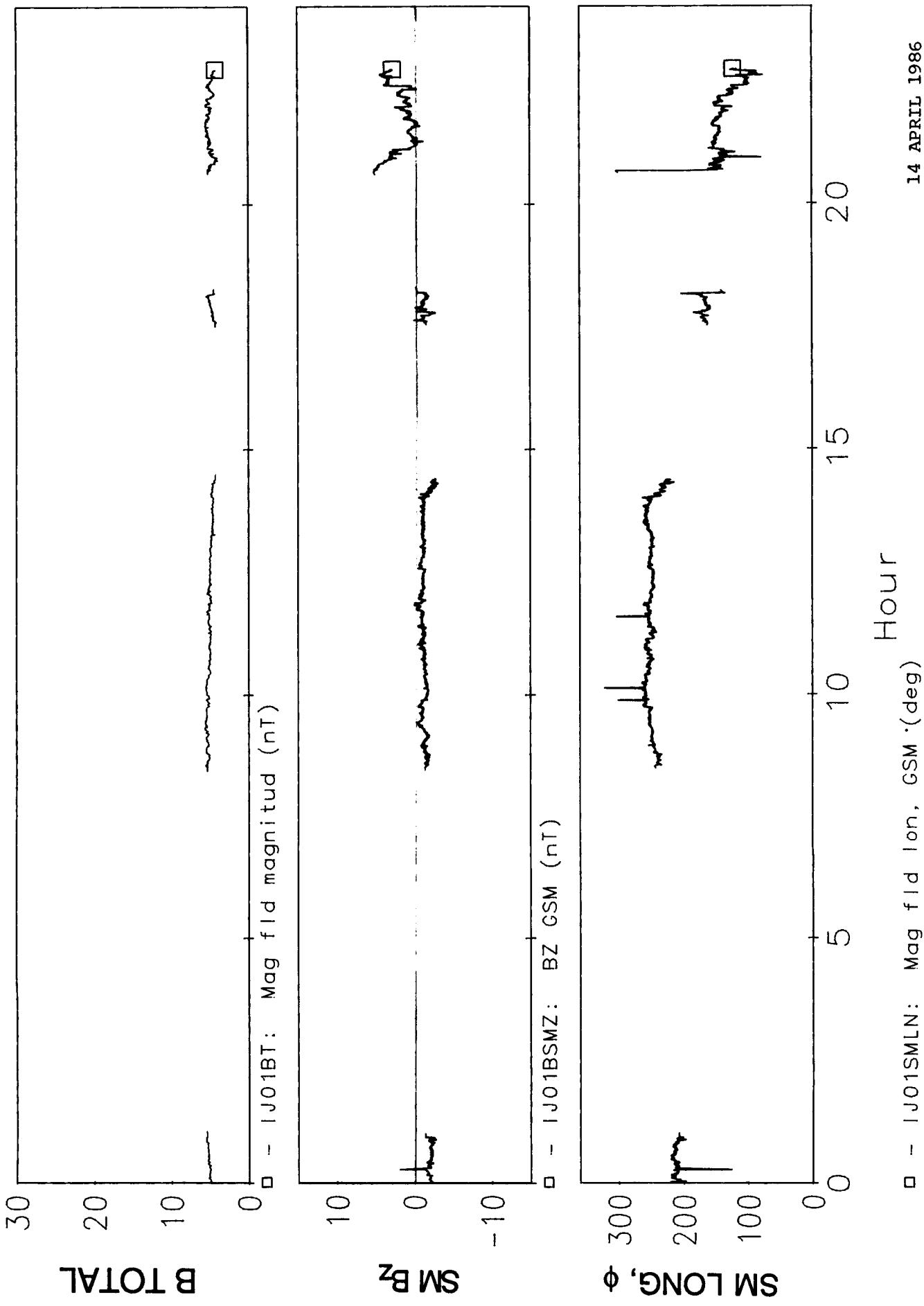




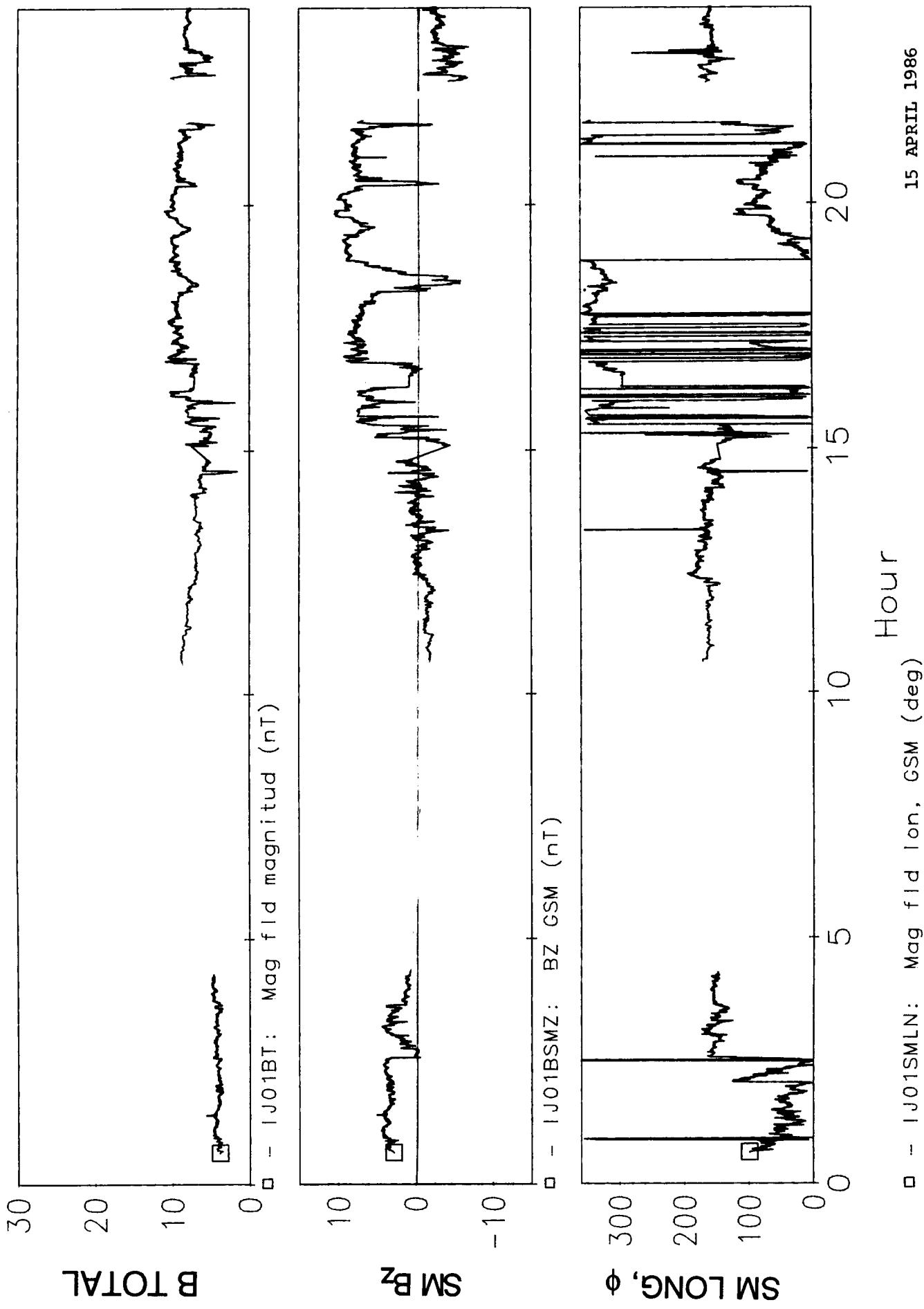


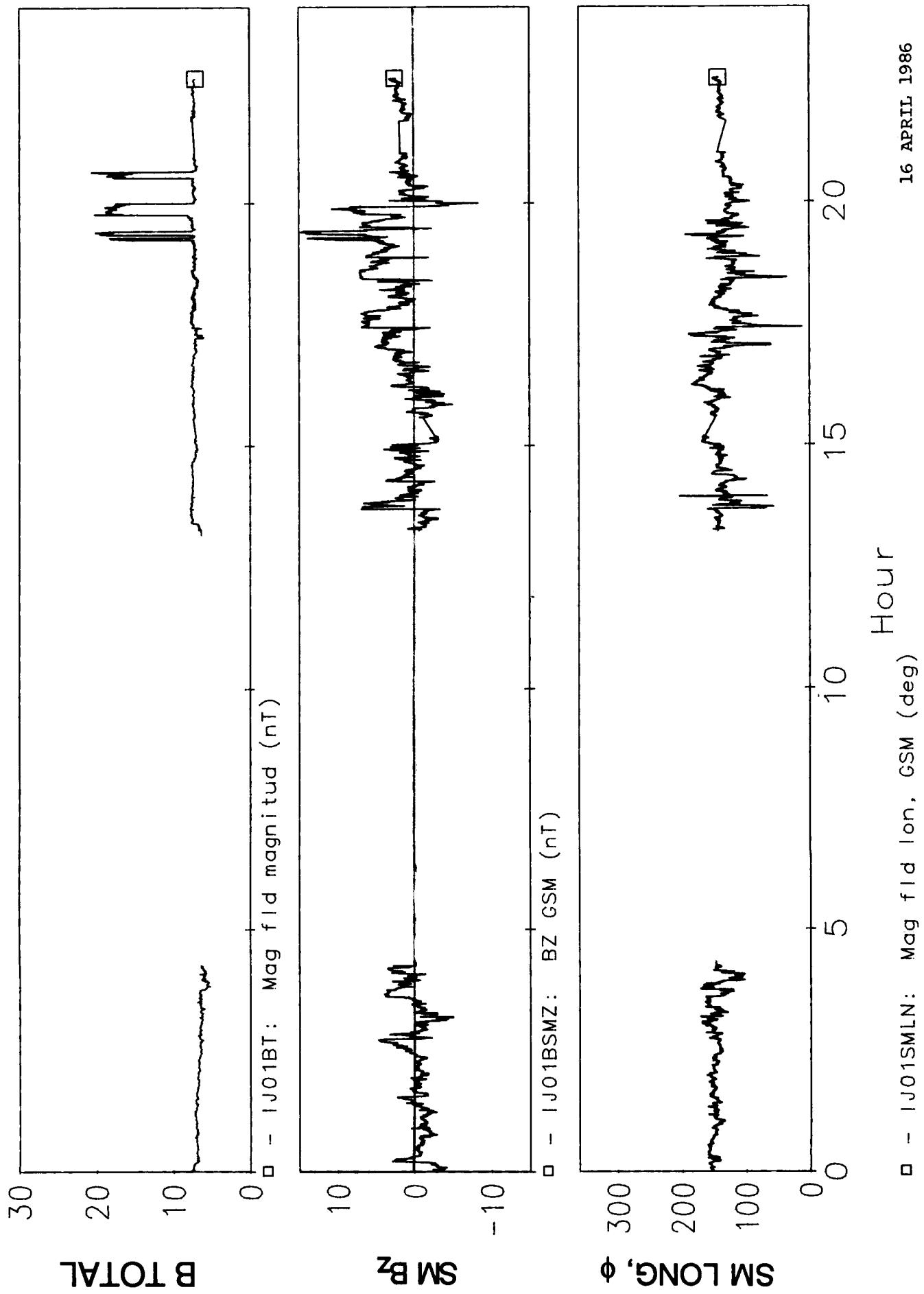


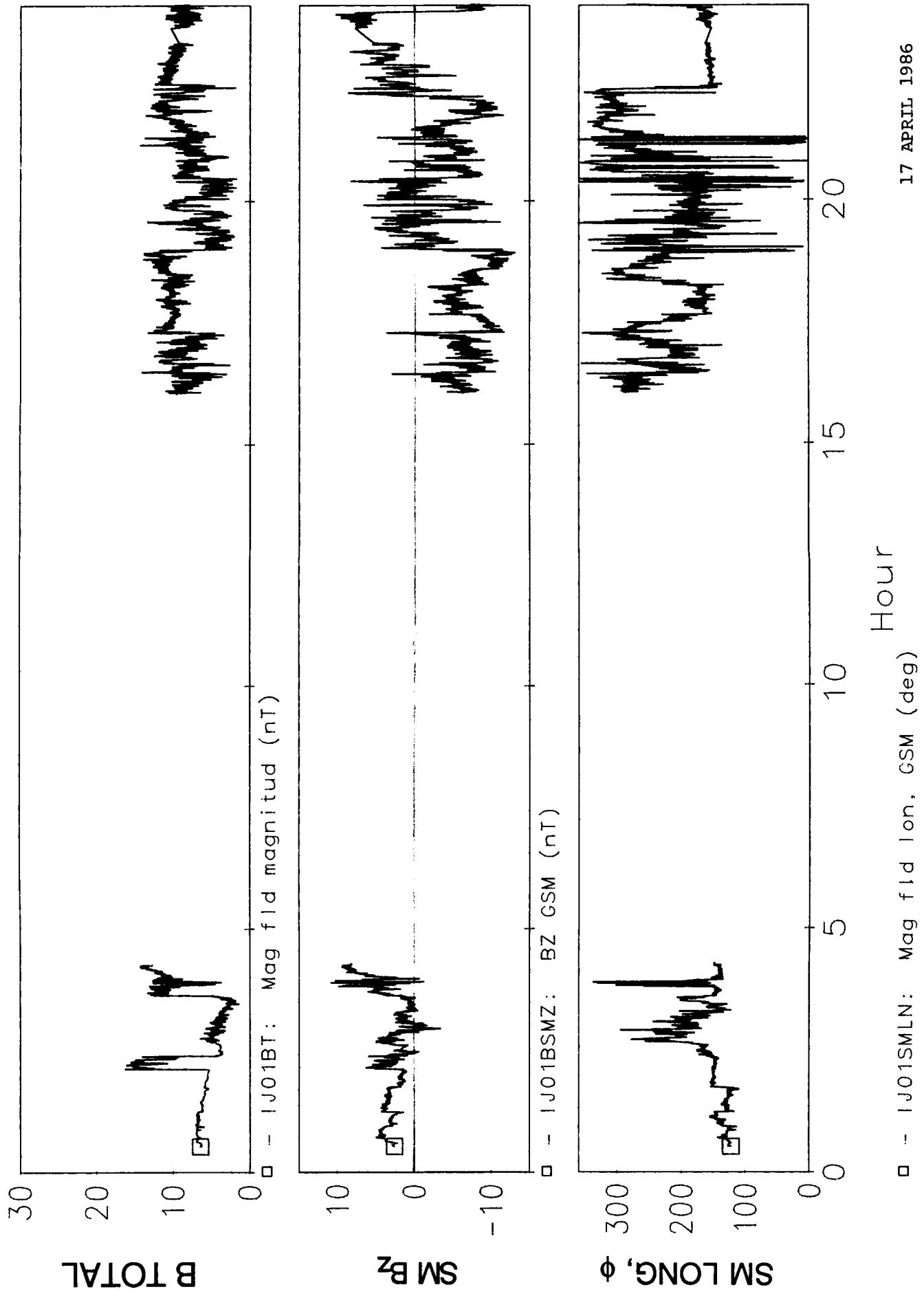


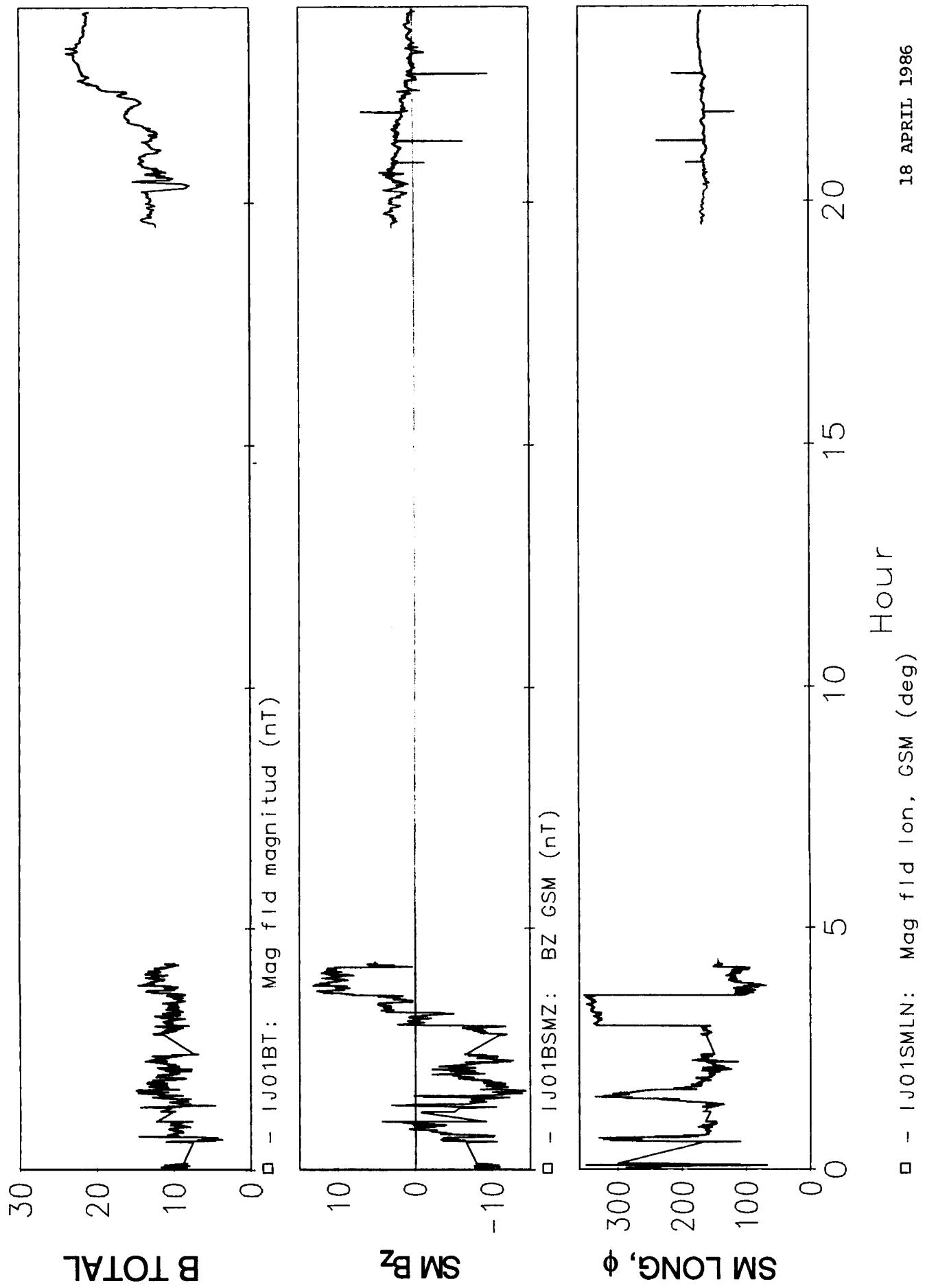


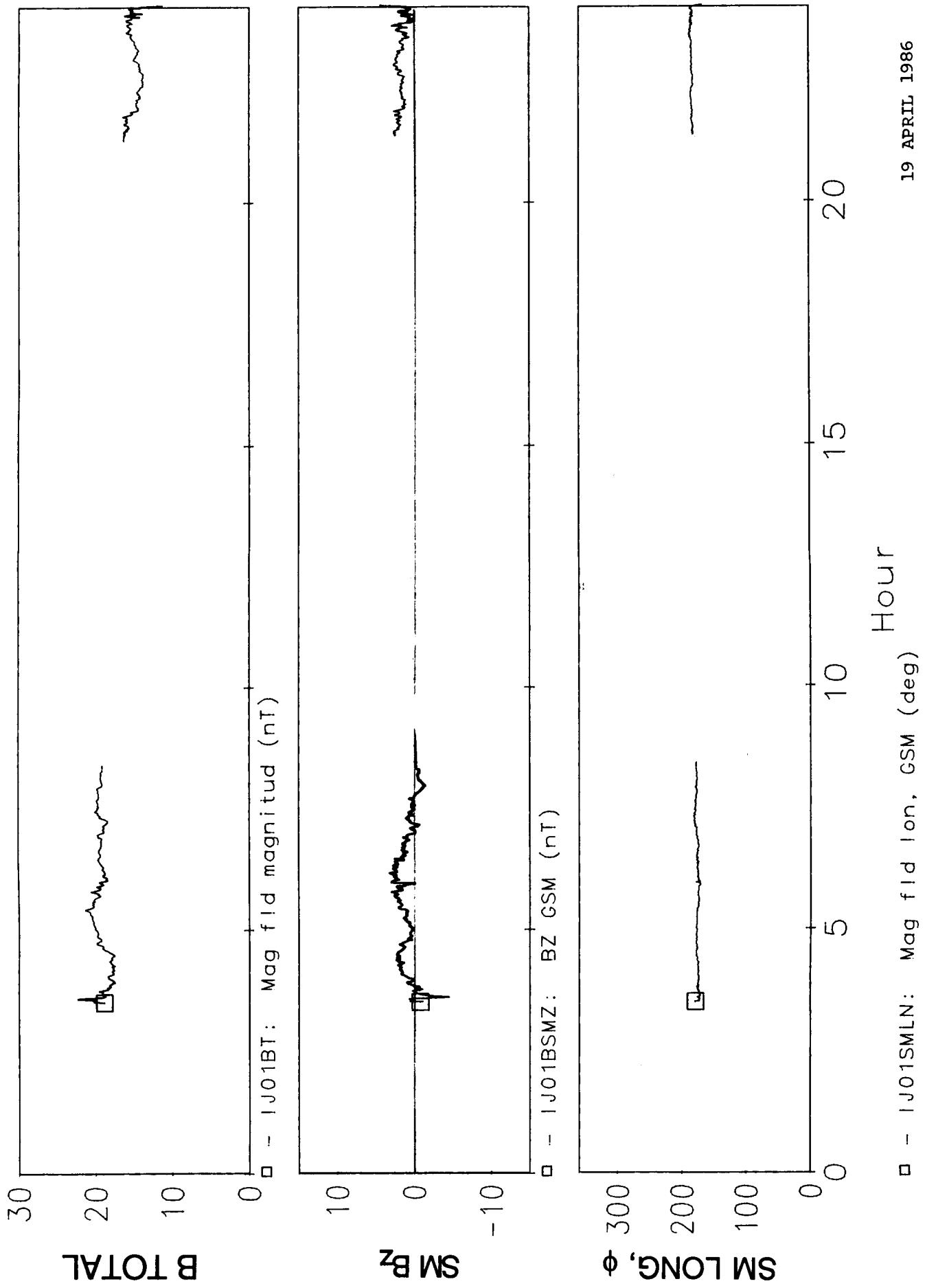
14 APRIL 1986

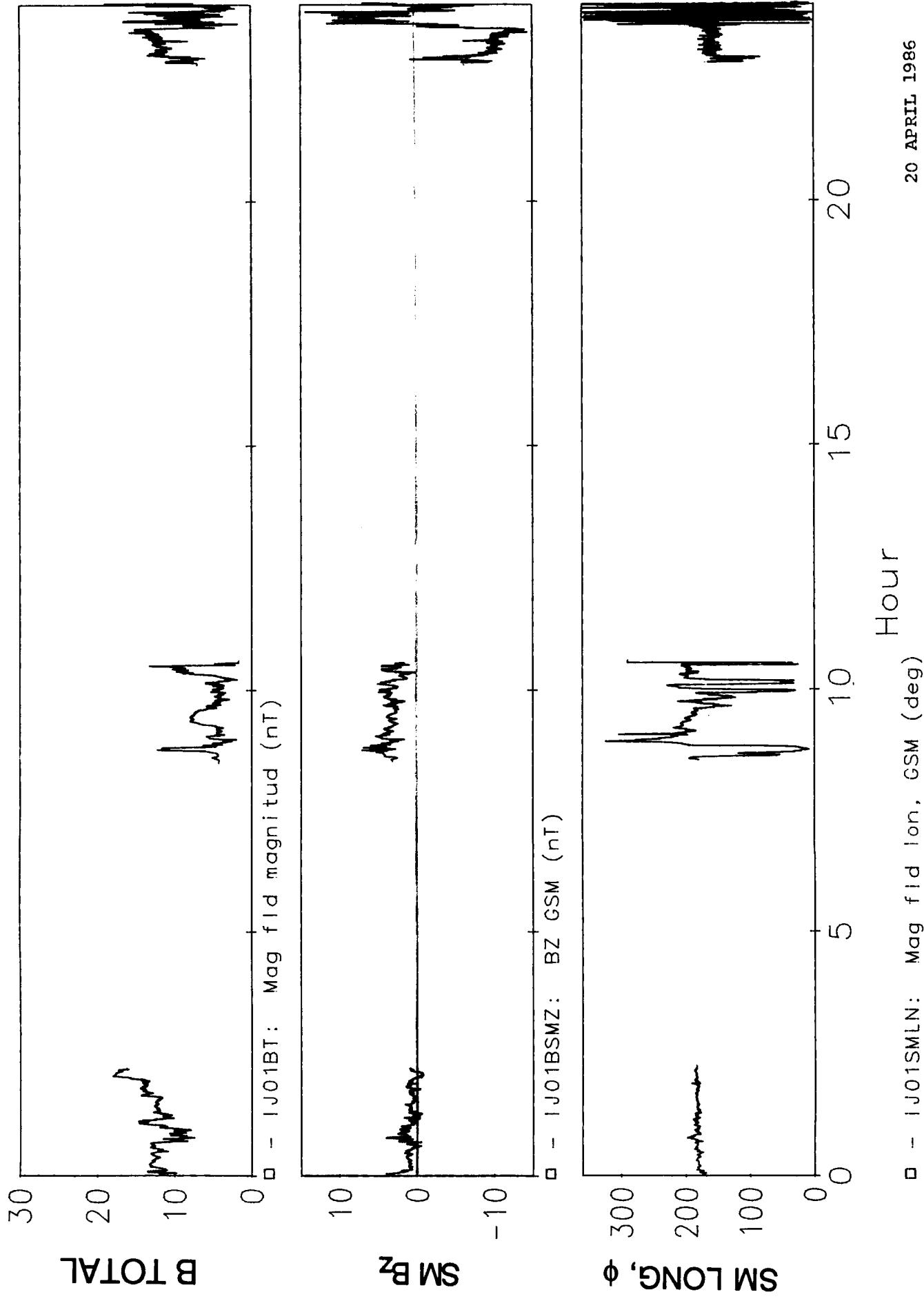


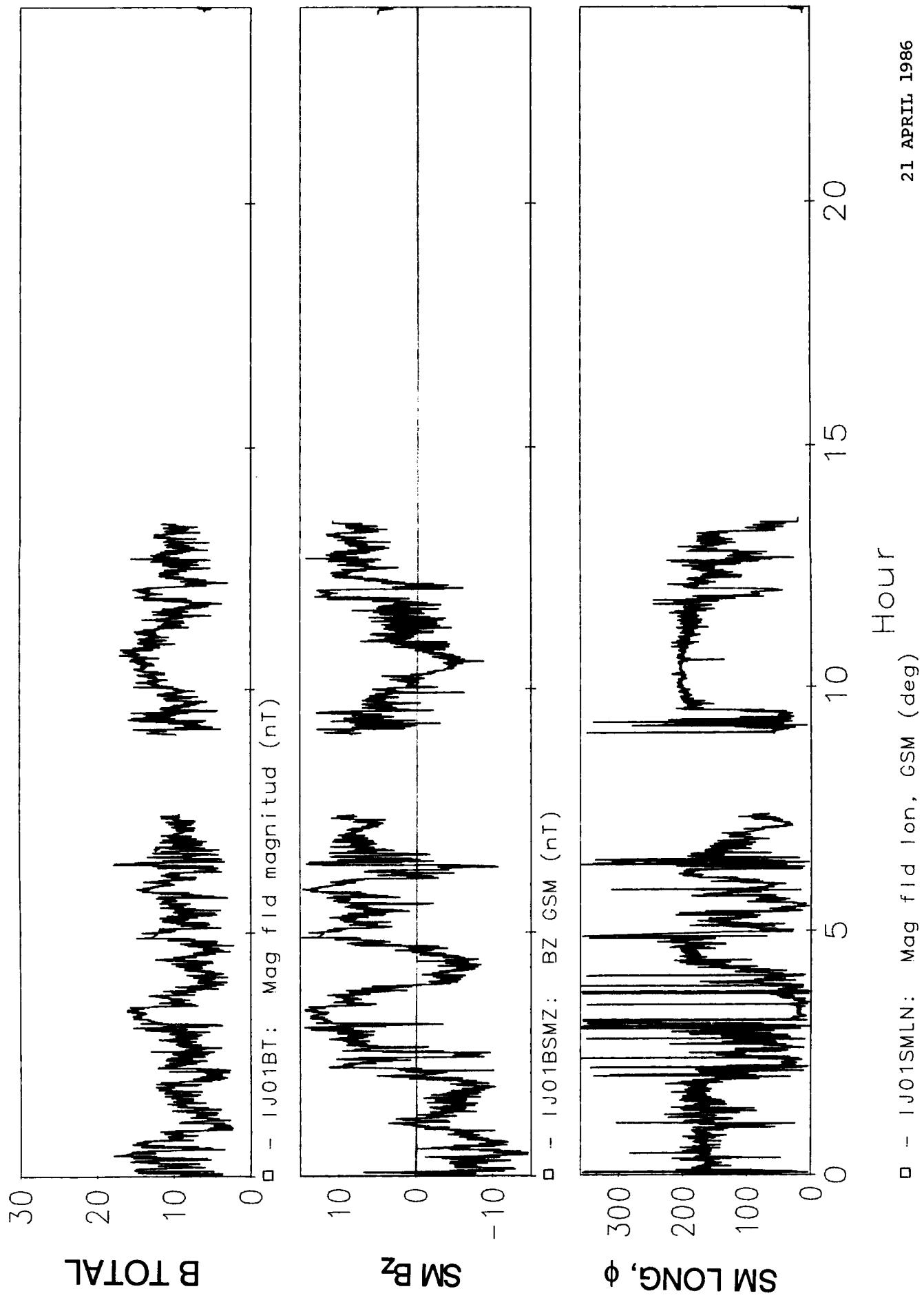




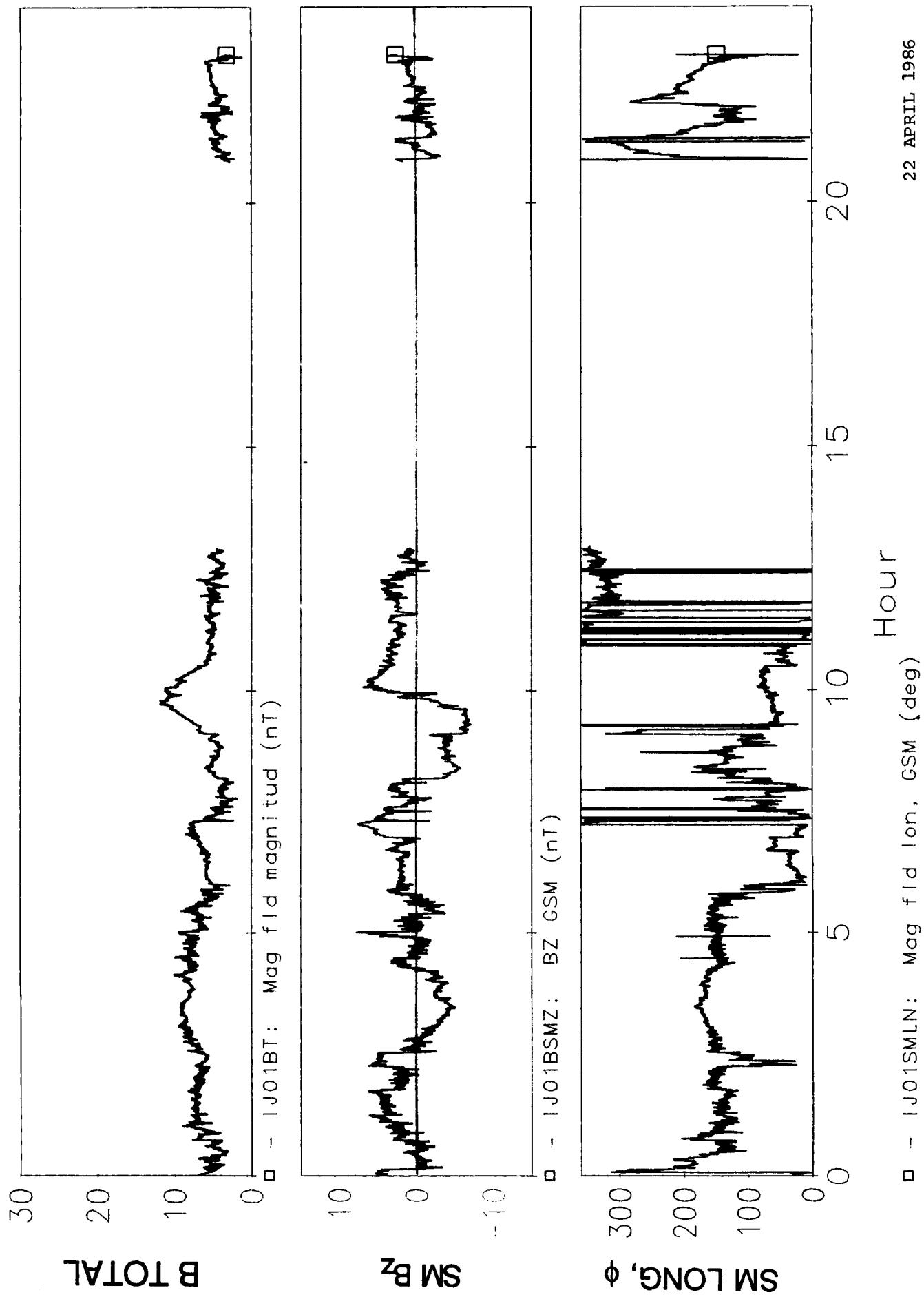


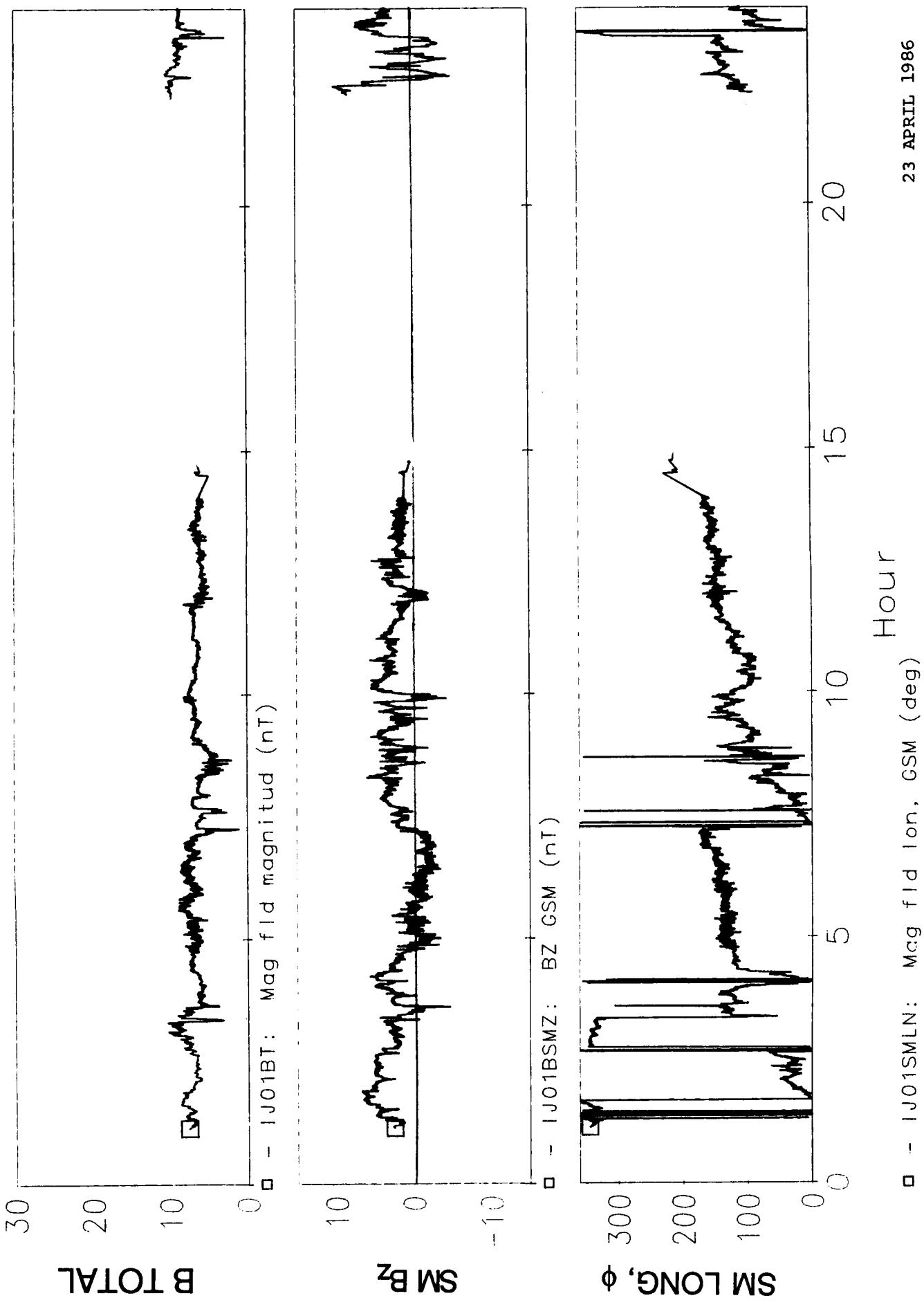


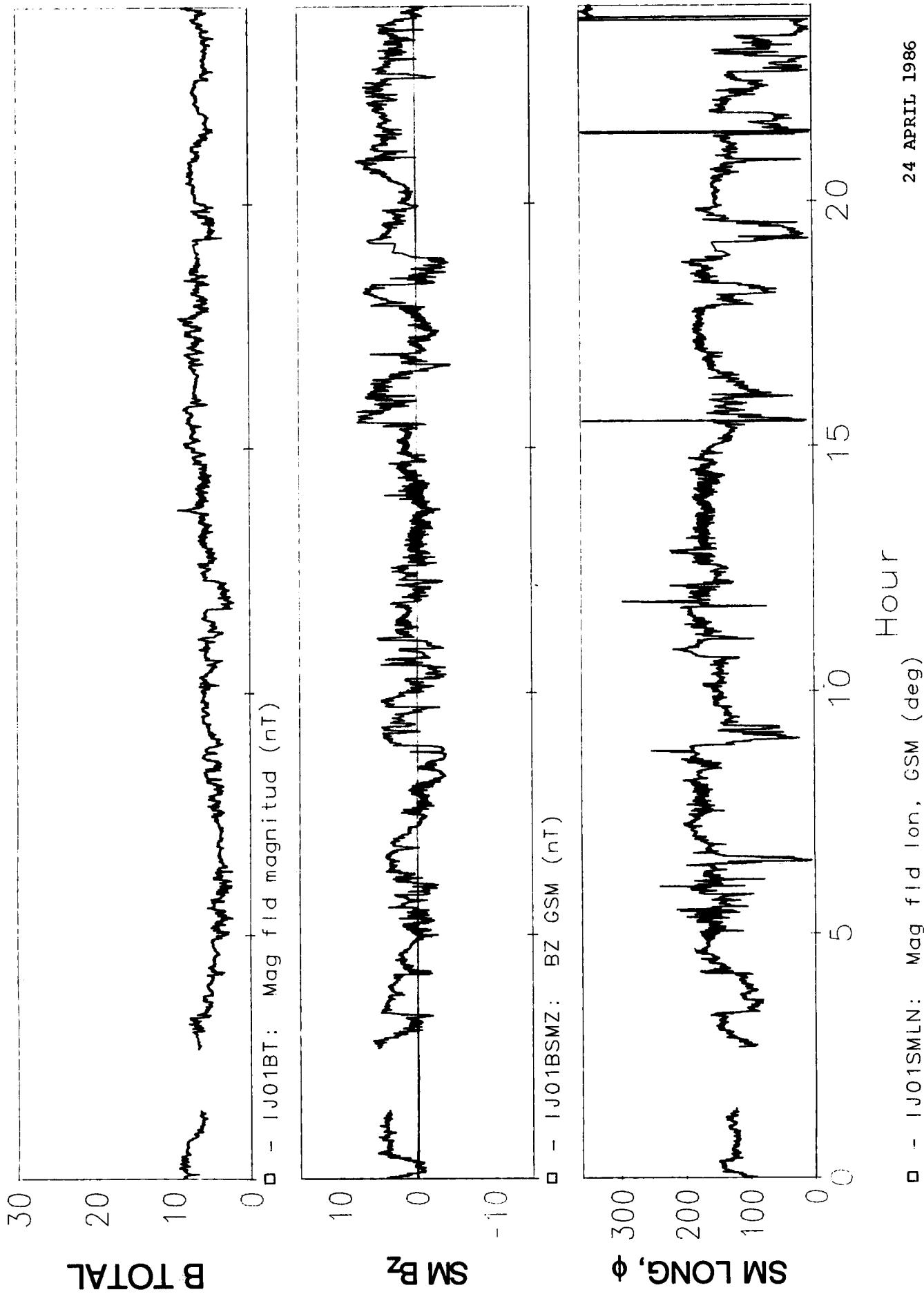


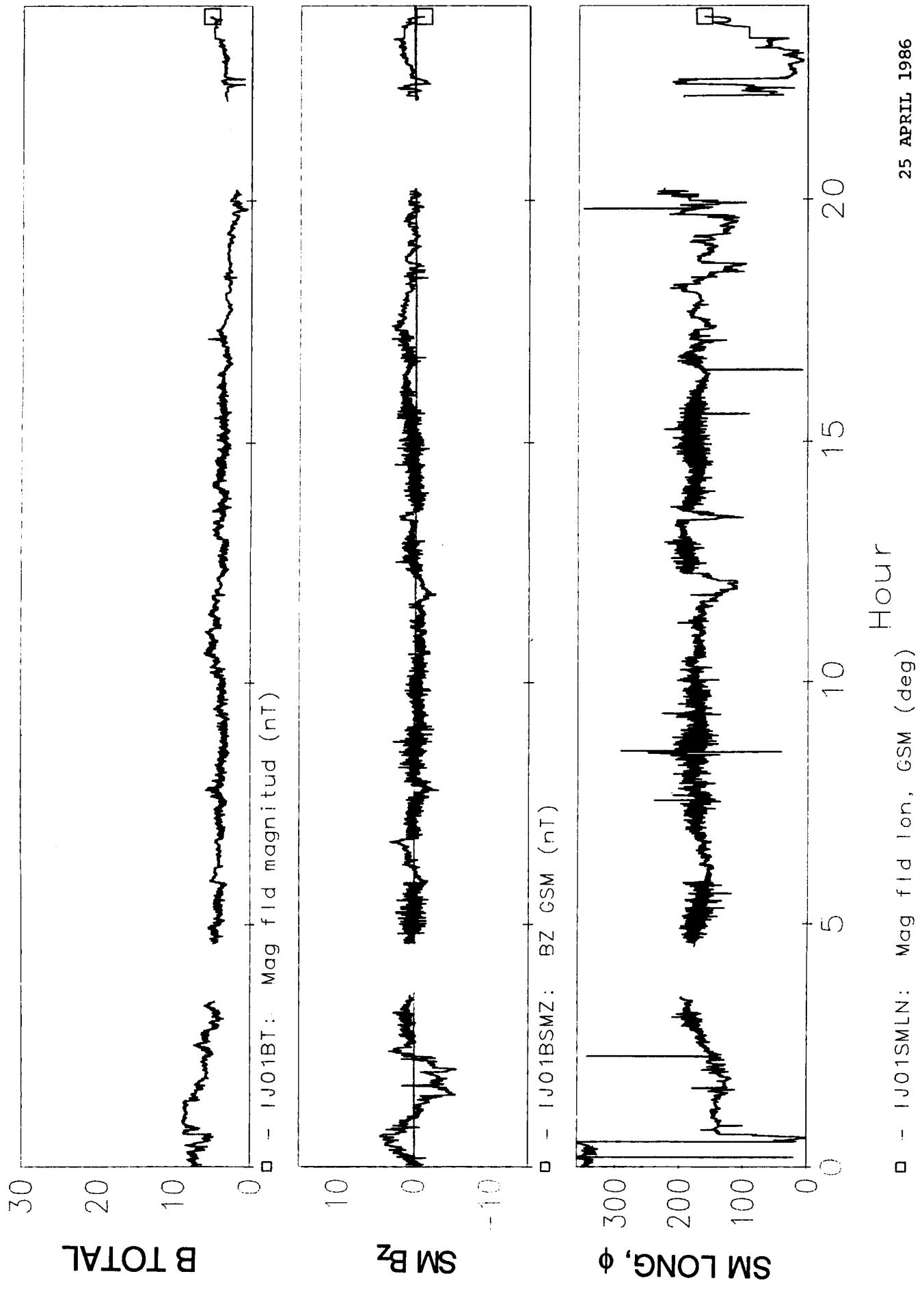


21 APRIL 1986

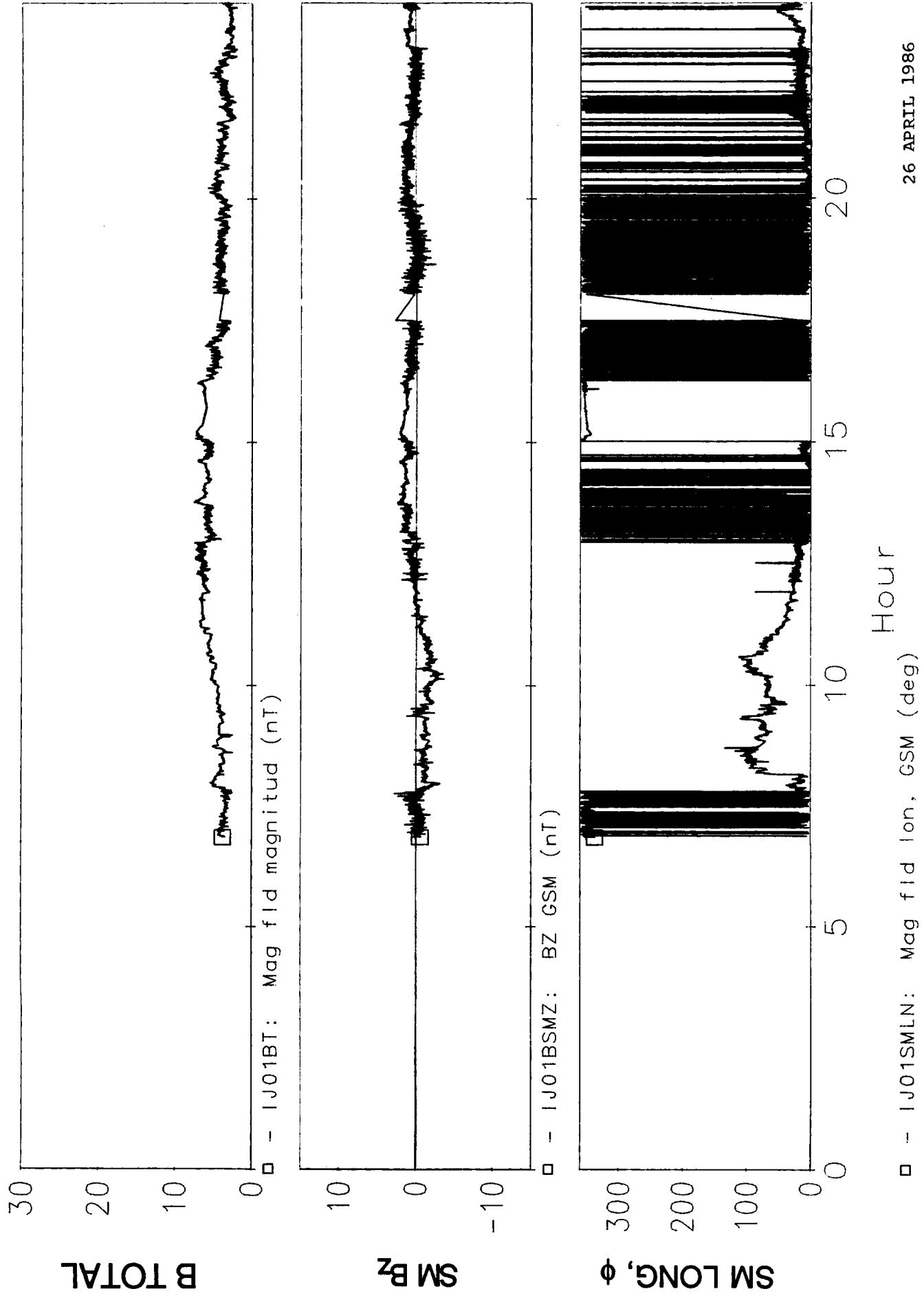


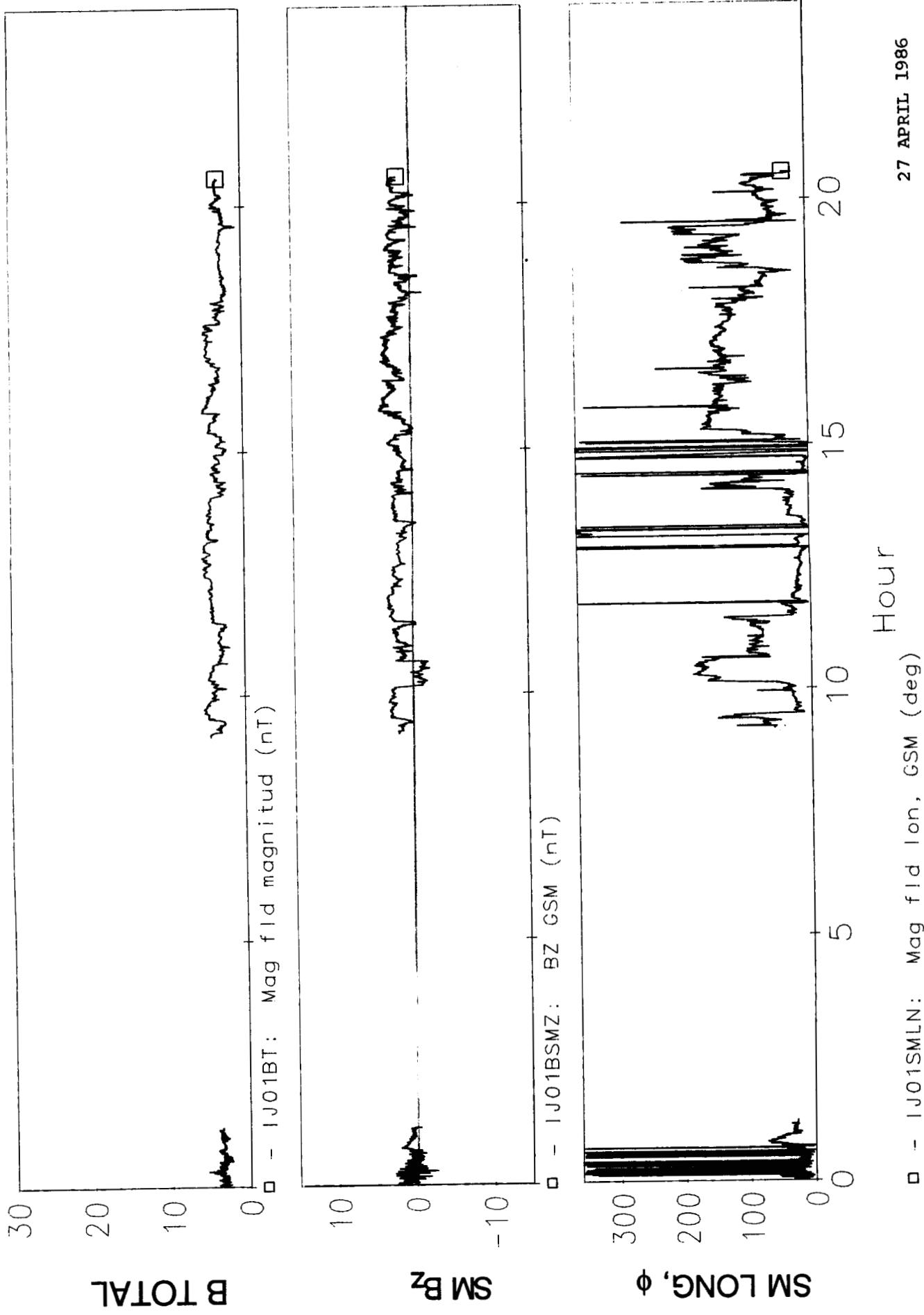


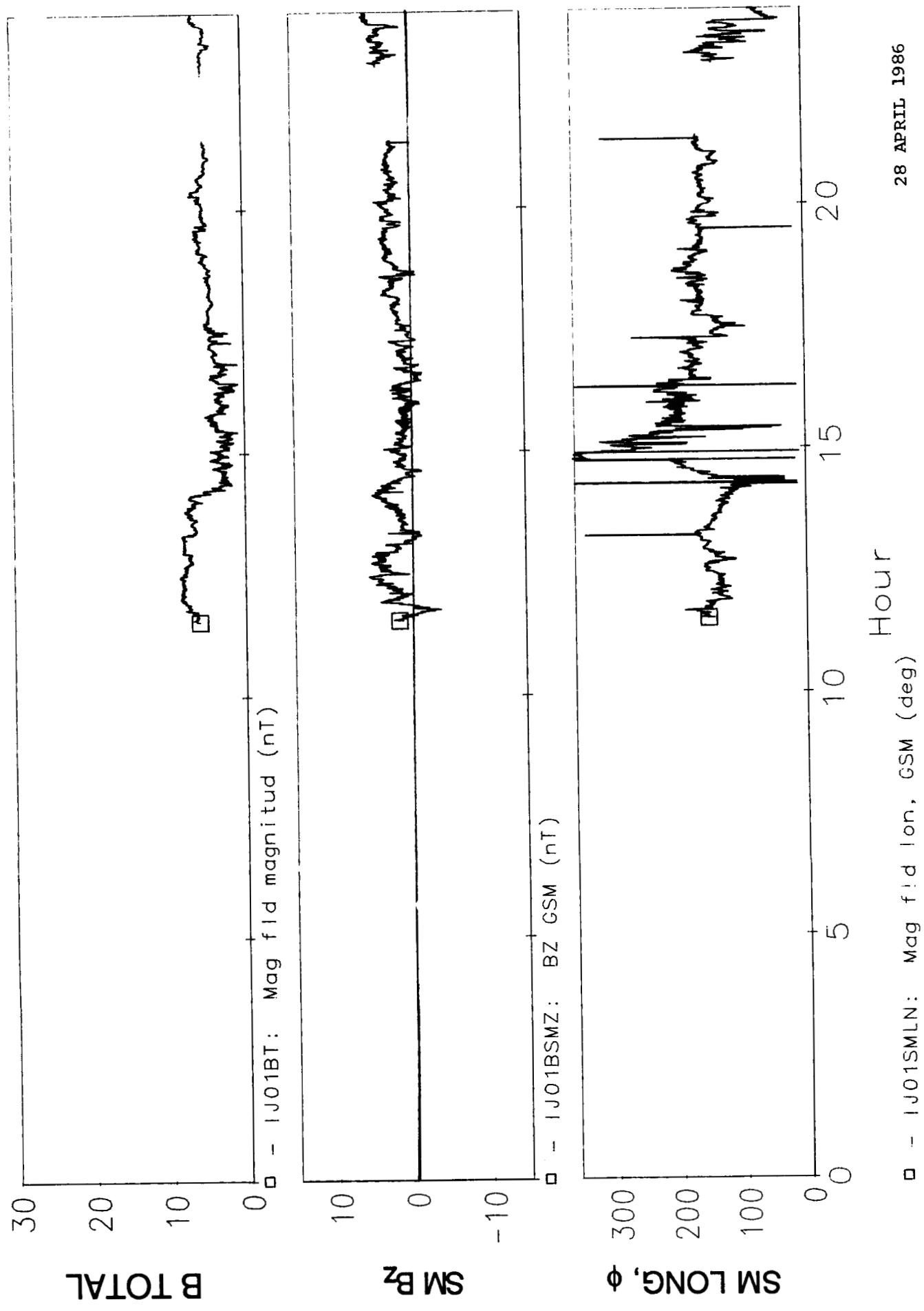


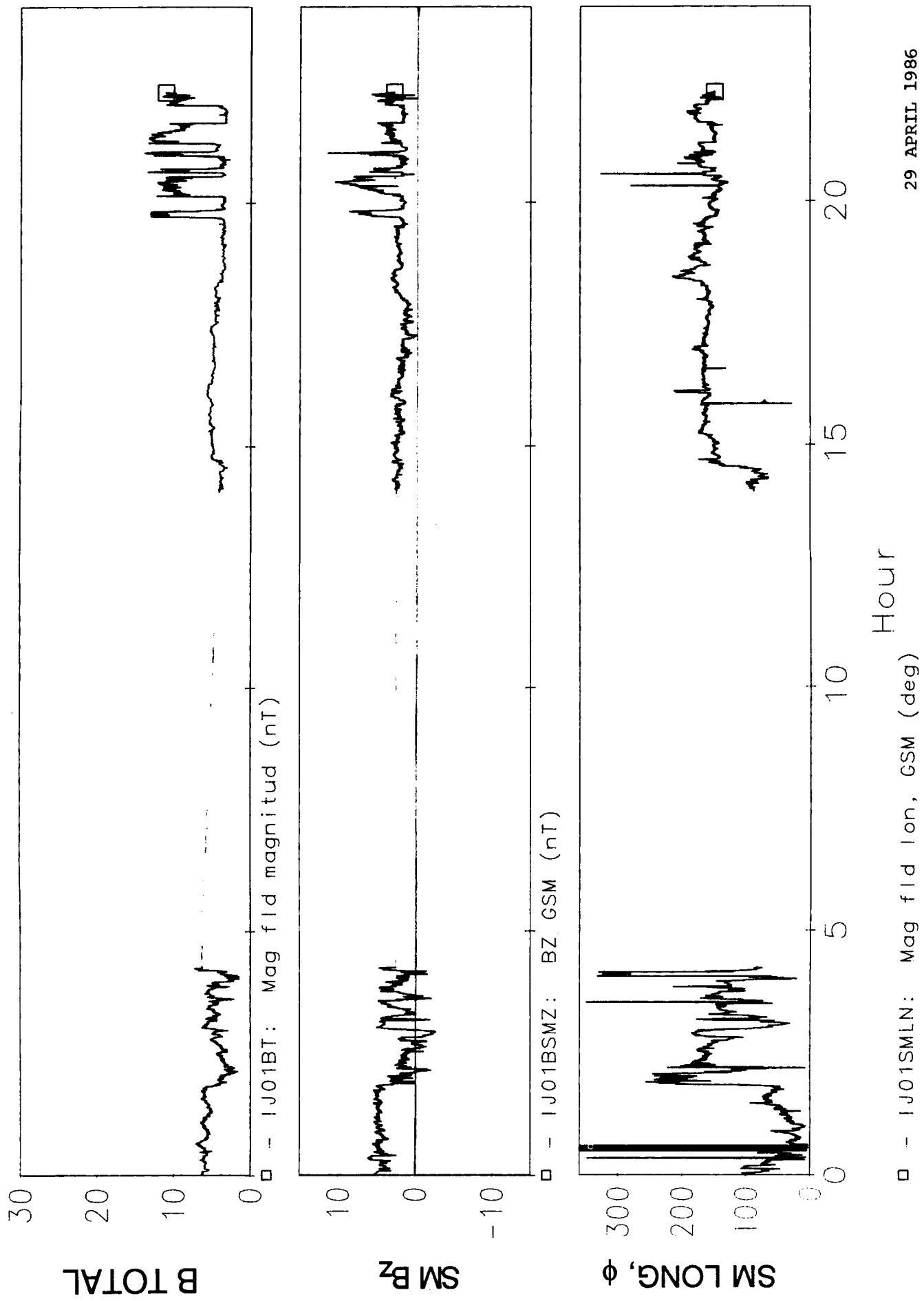


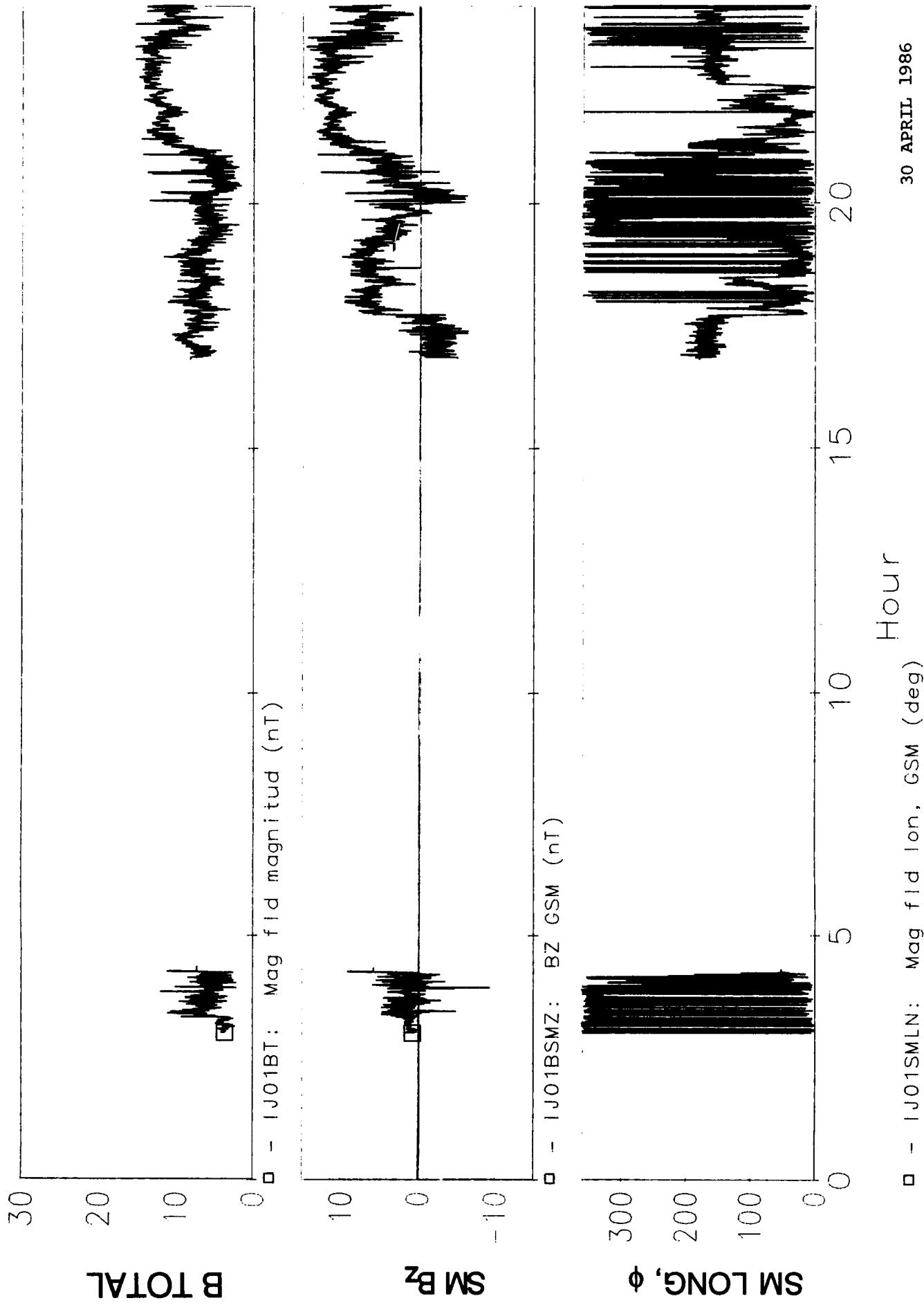
25 APRIL 1986

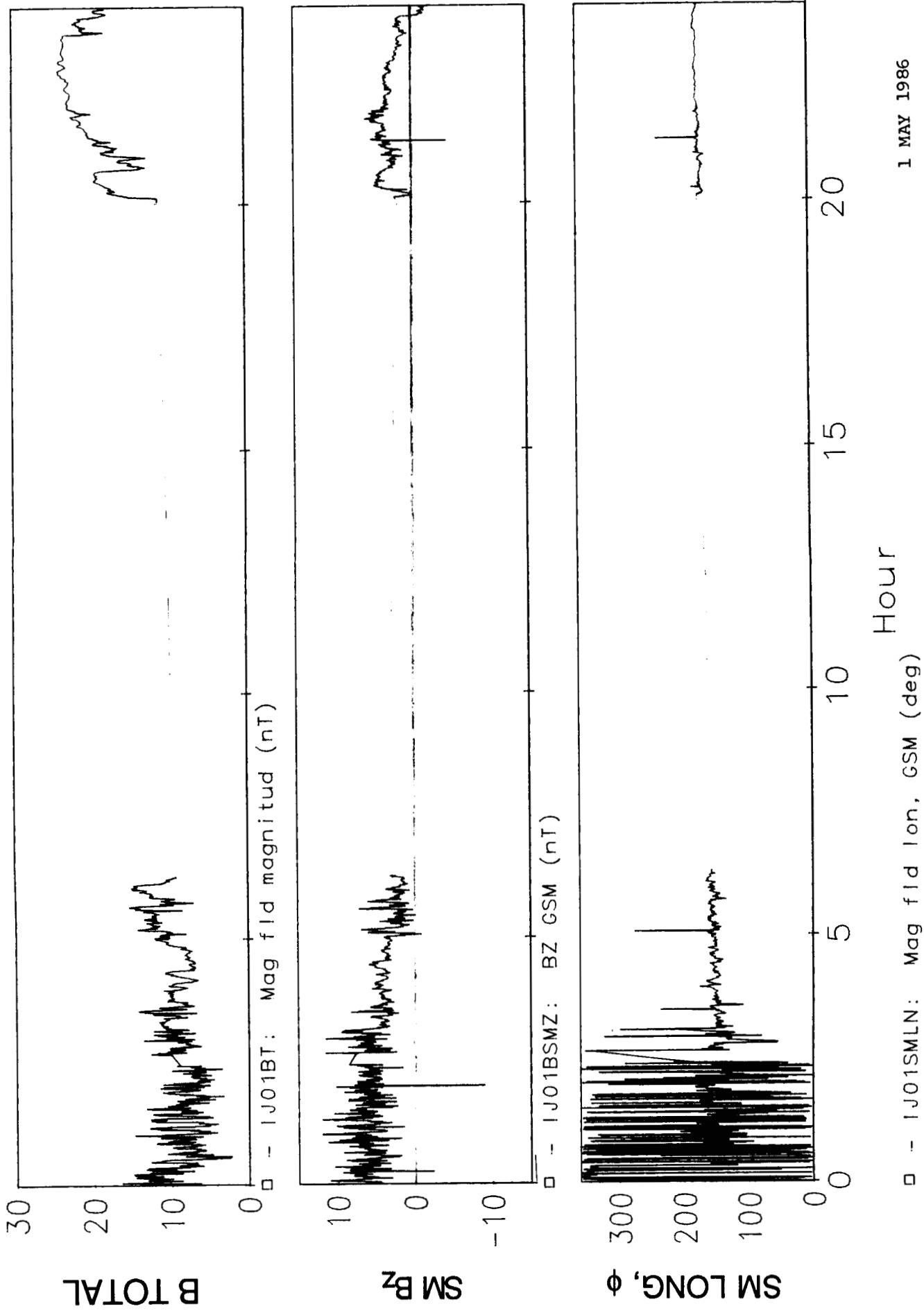


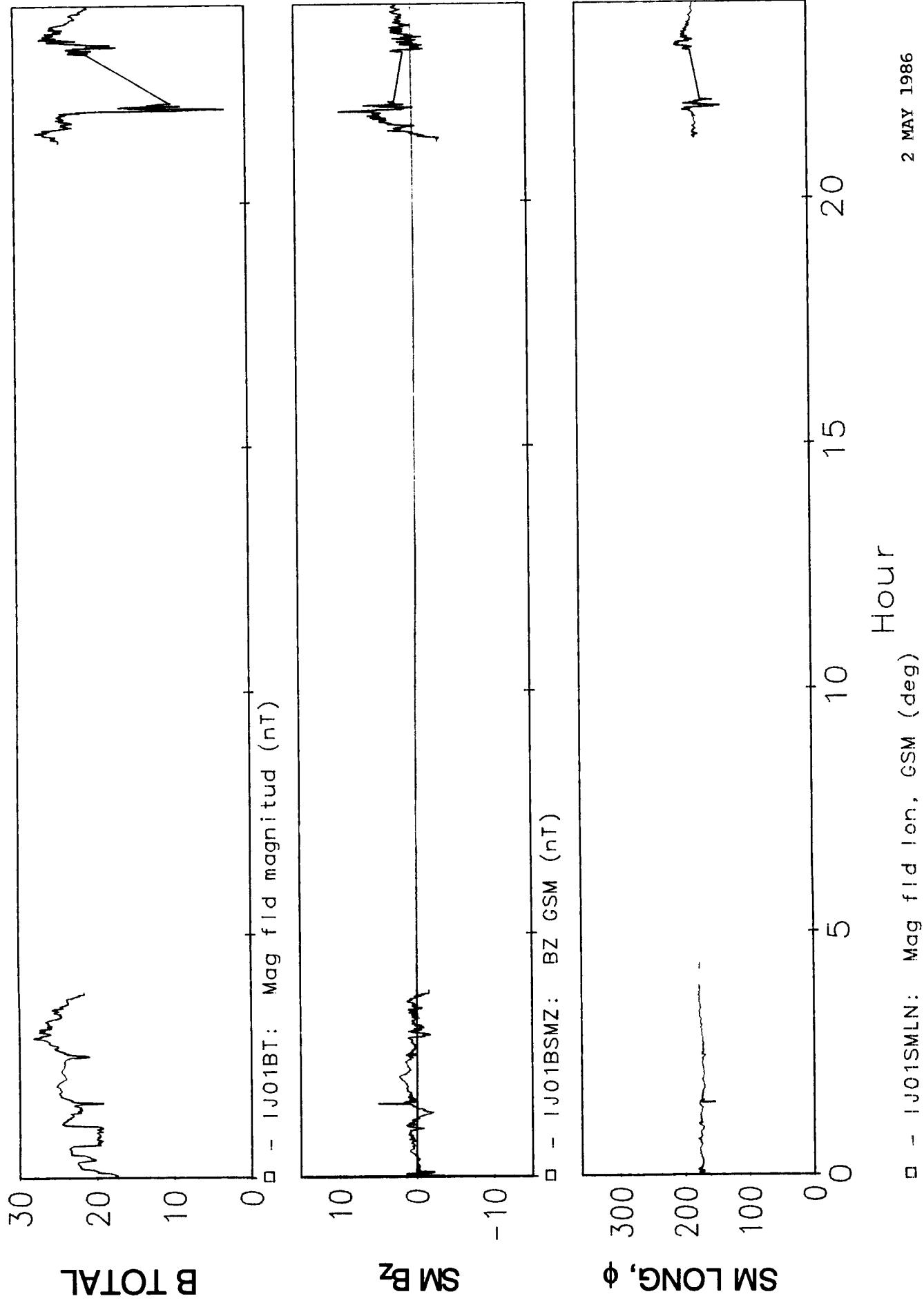




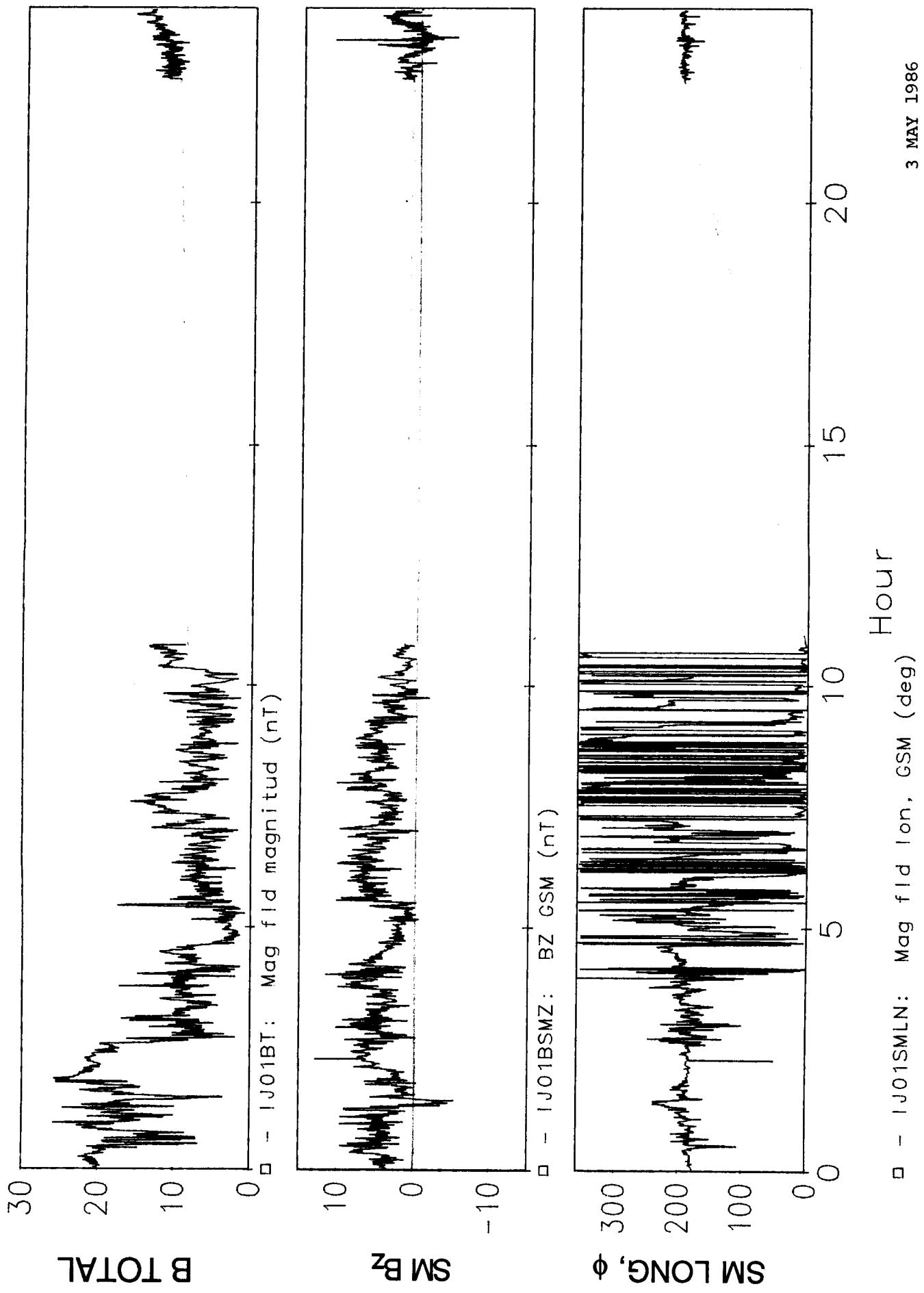


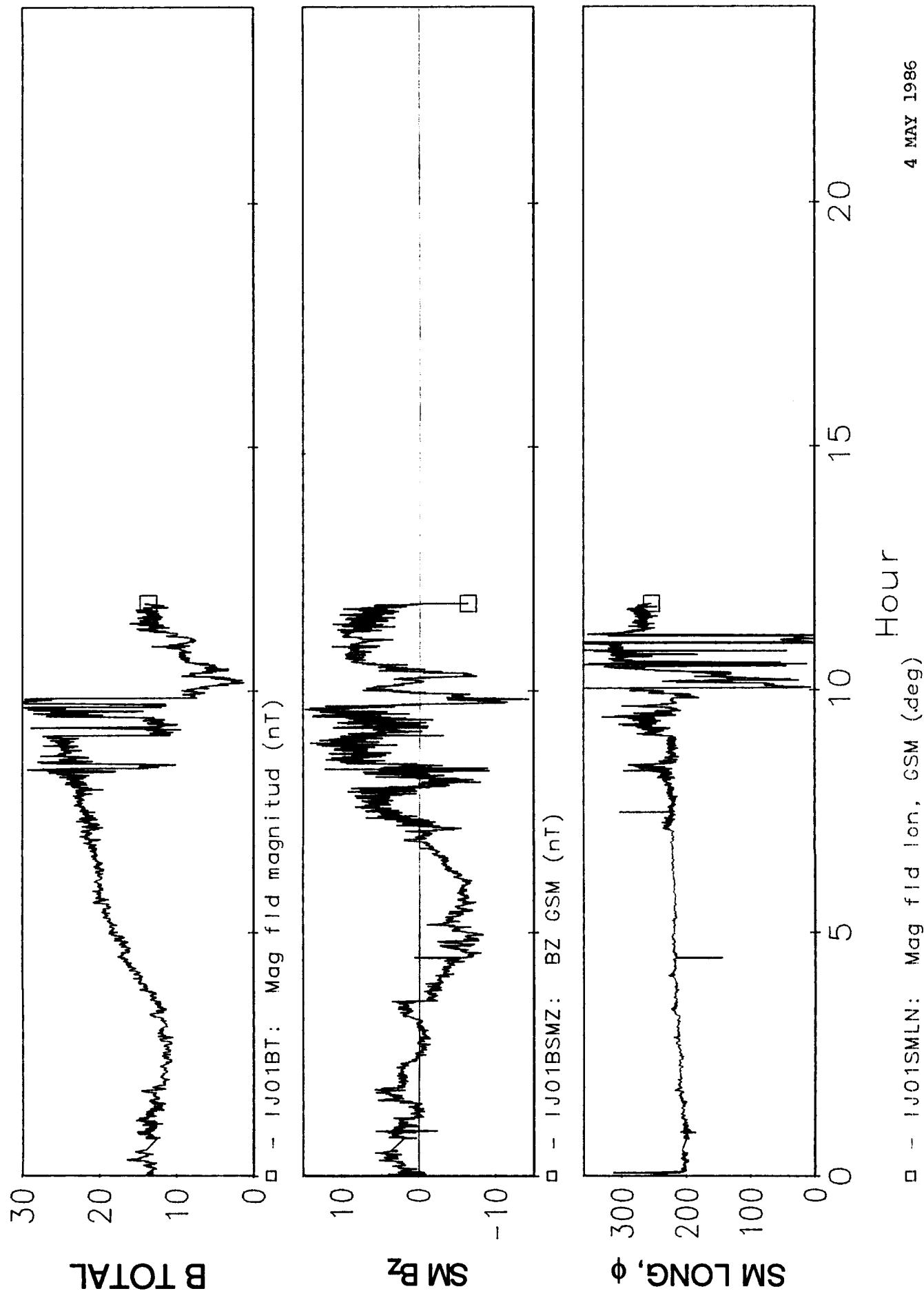


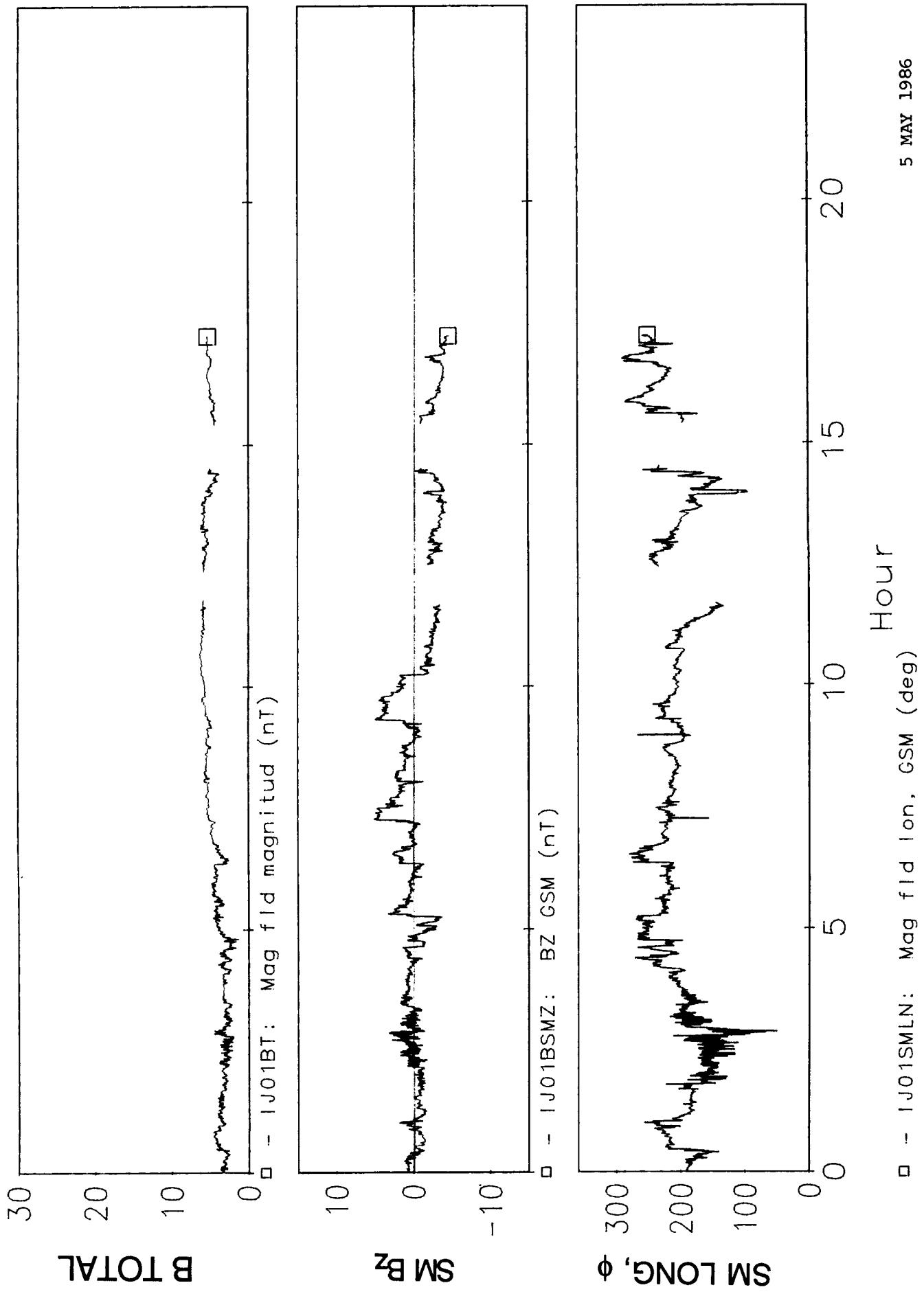


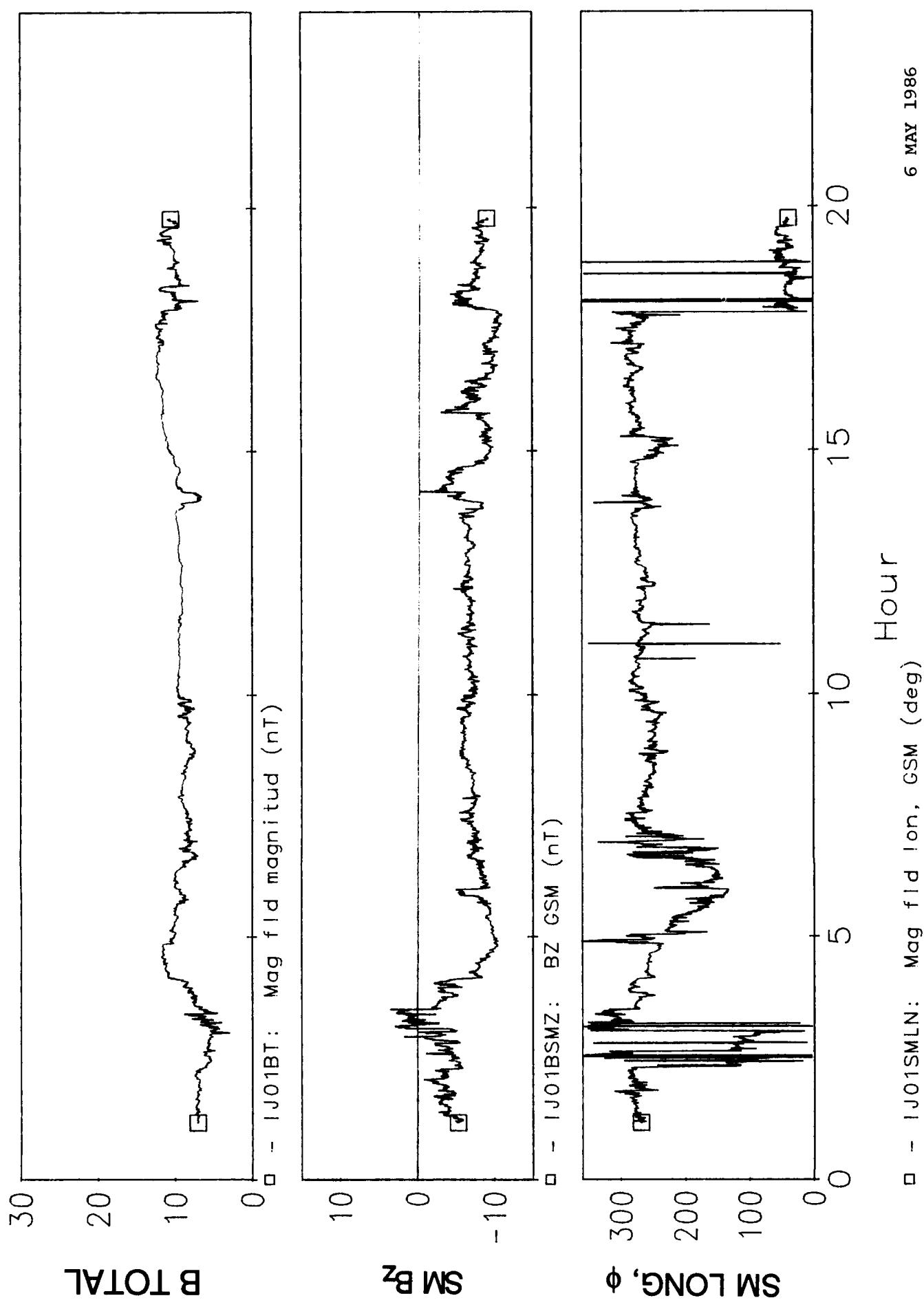


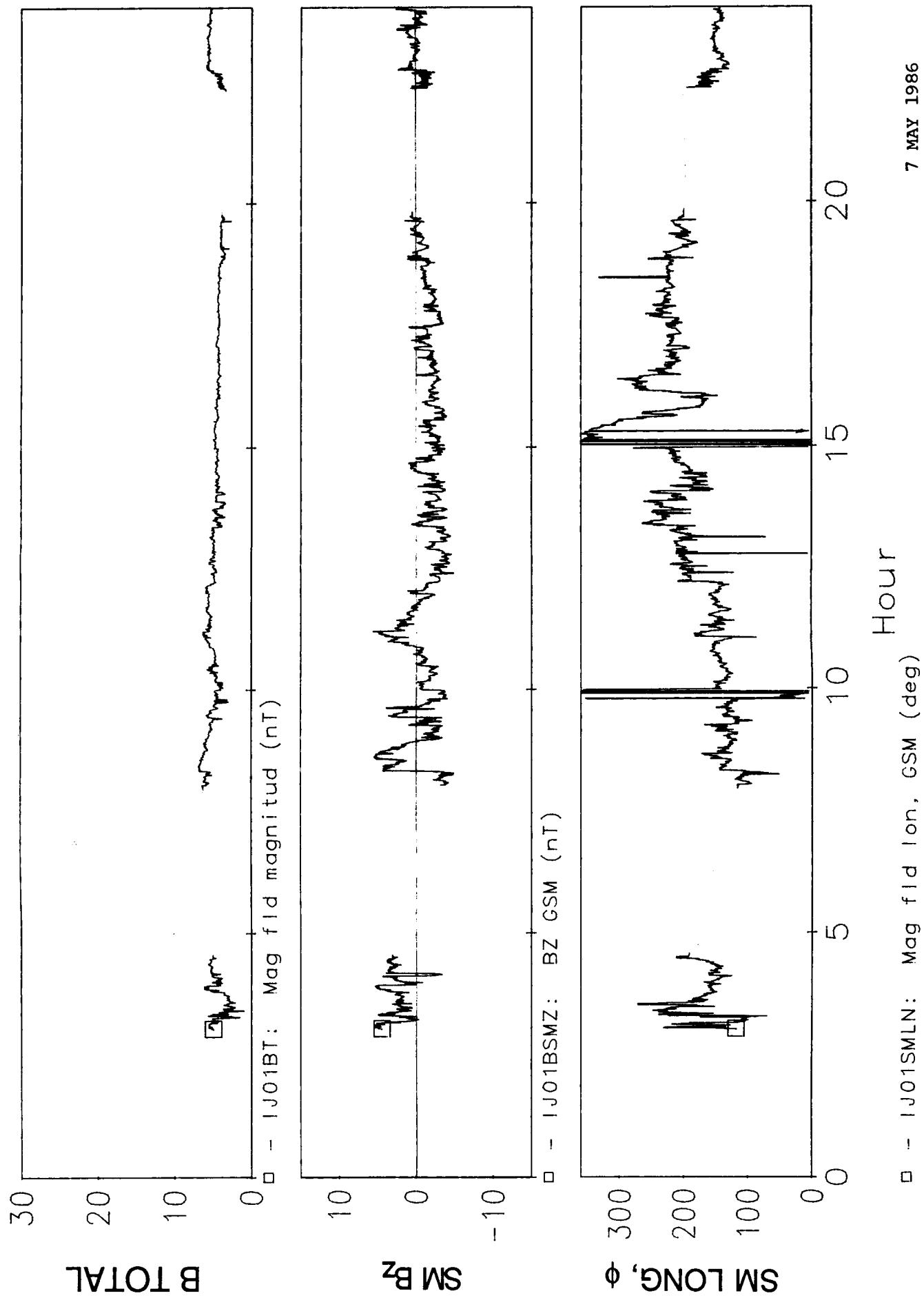
2 MAY 1986





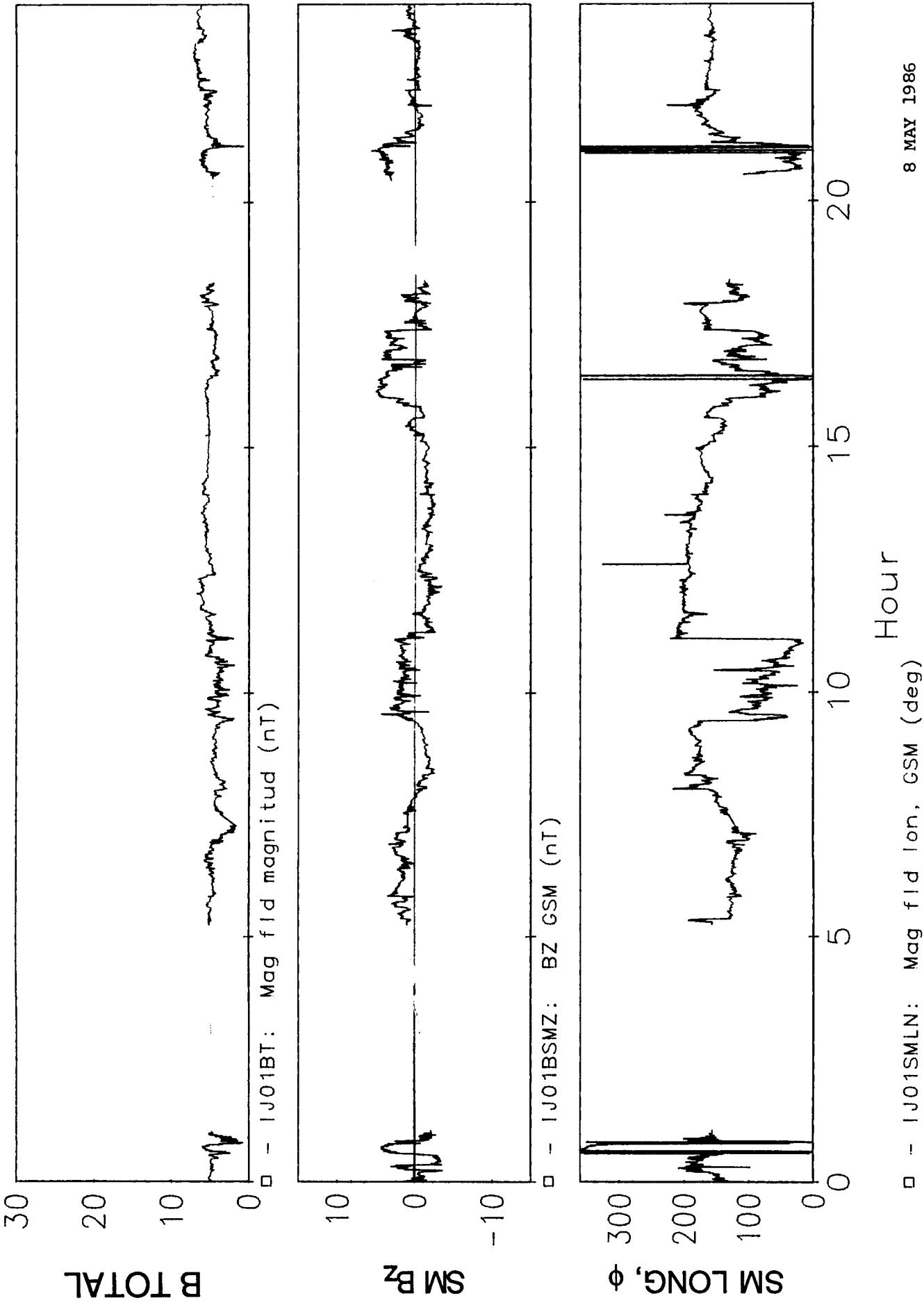


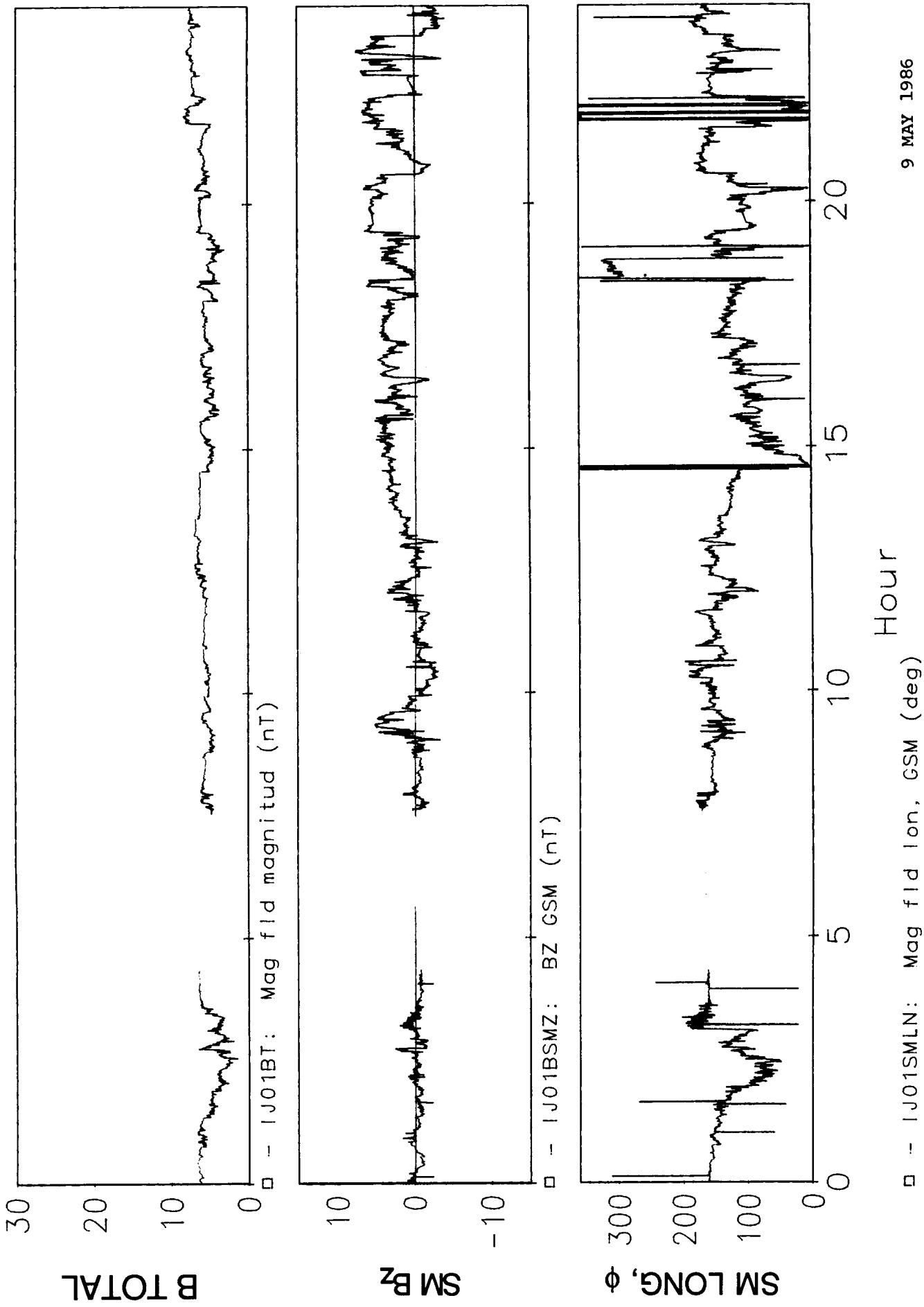


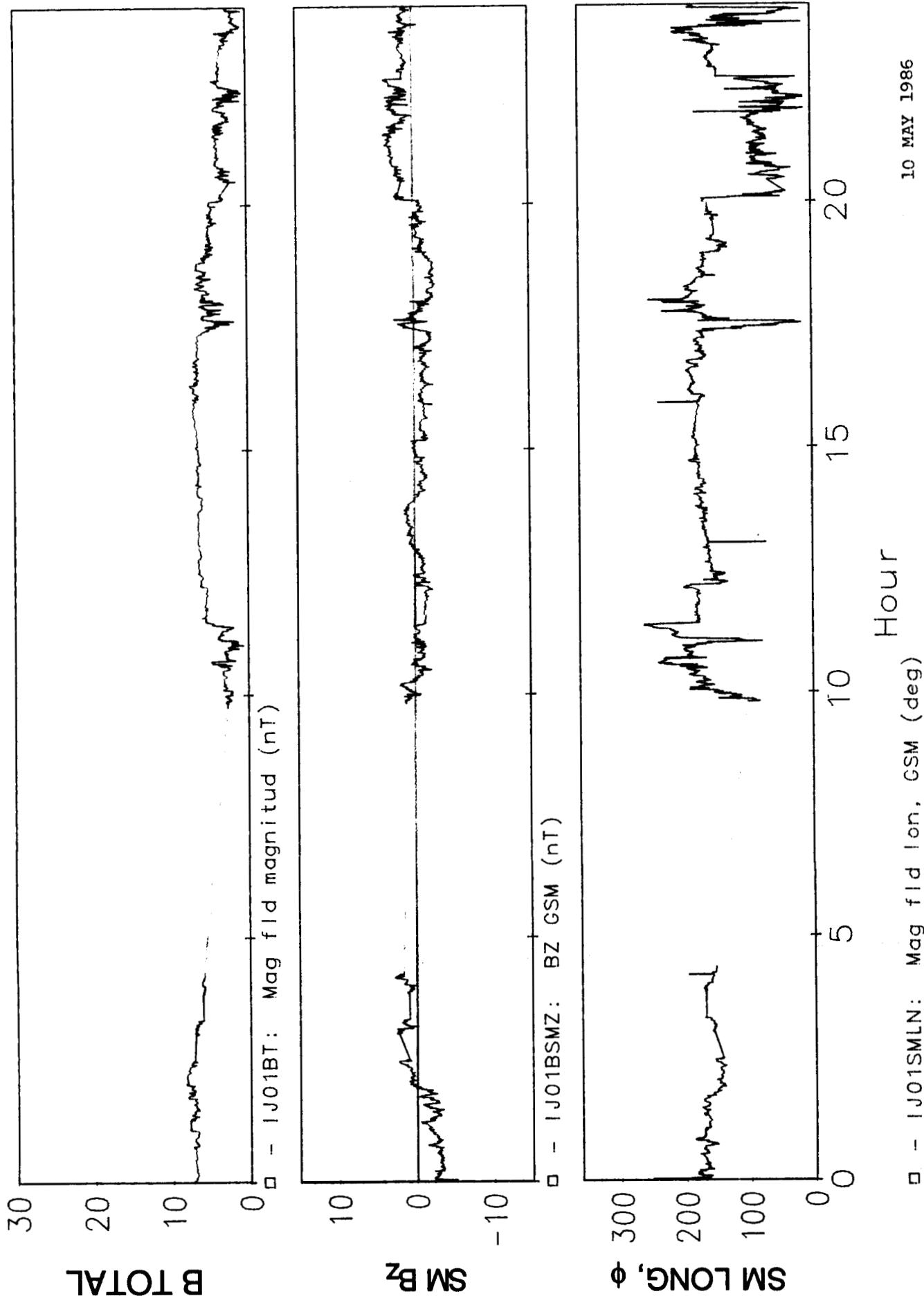


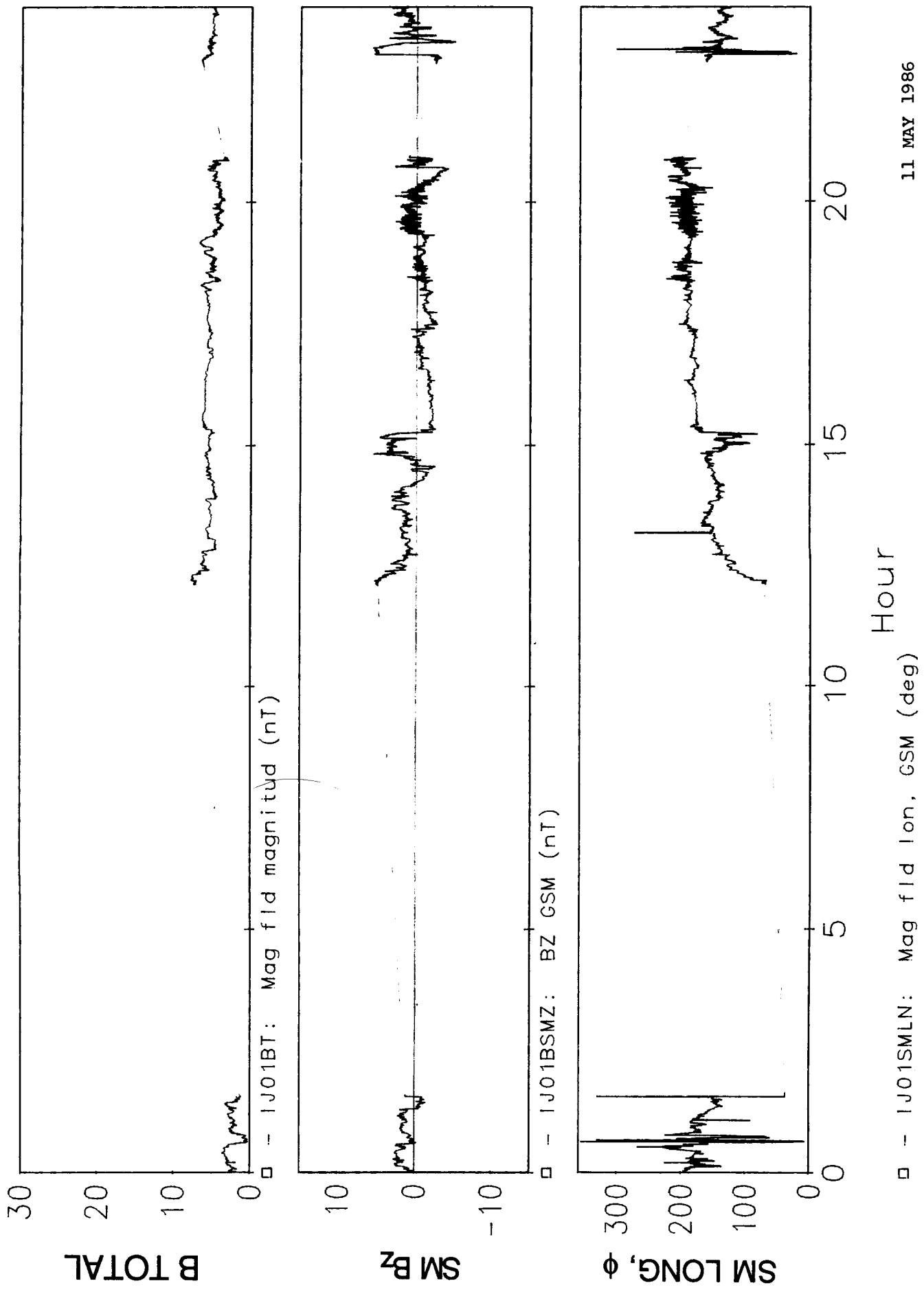
7 MAY 1986

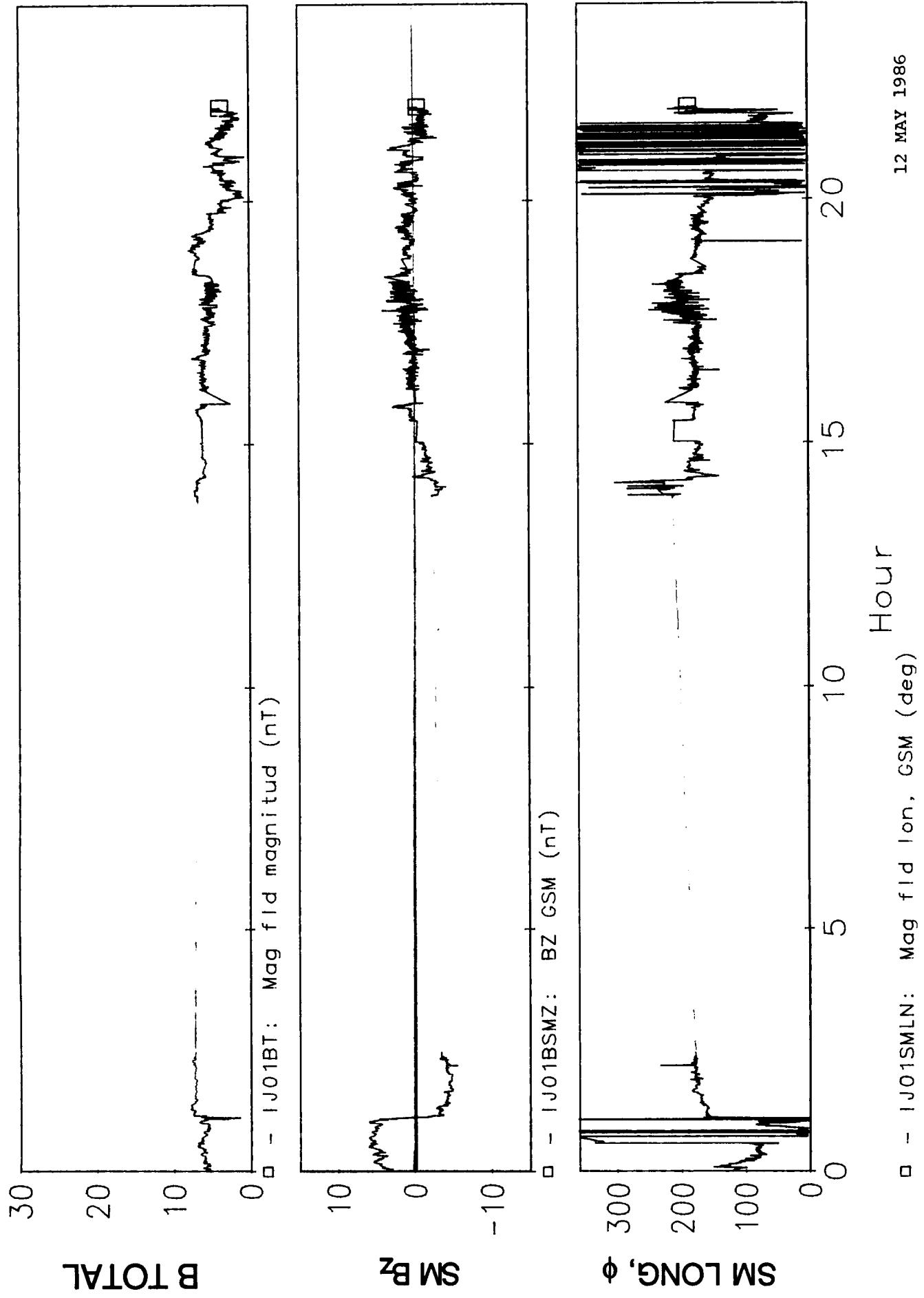
□ - IJ01SMLN: Mag field lon, GSM (deg) Hour

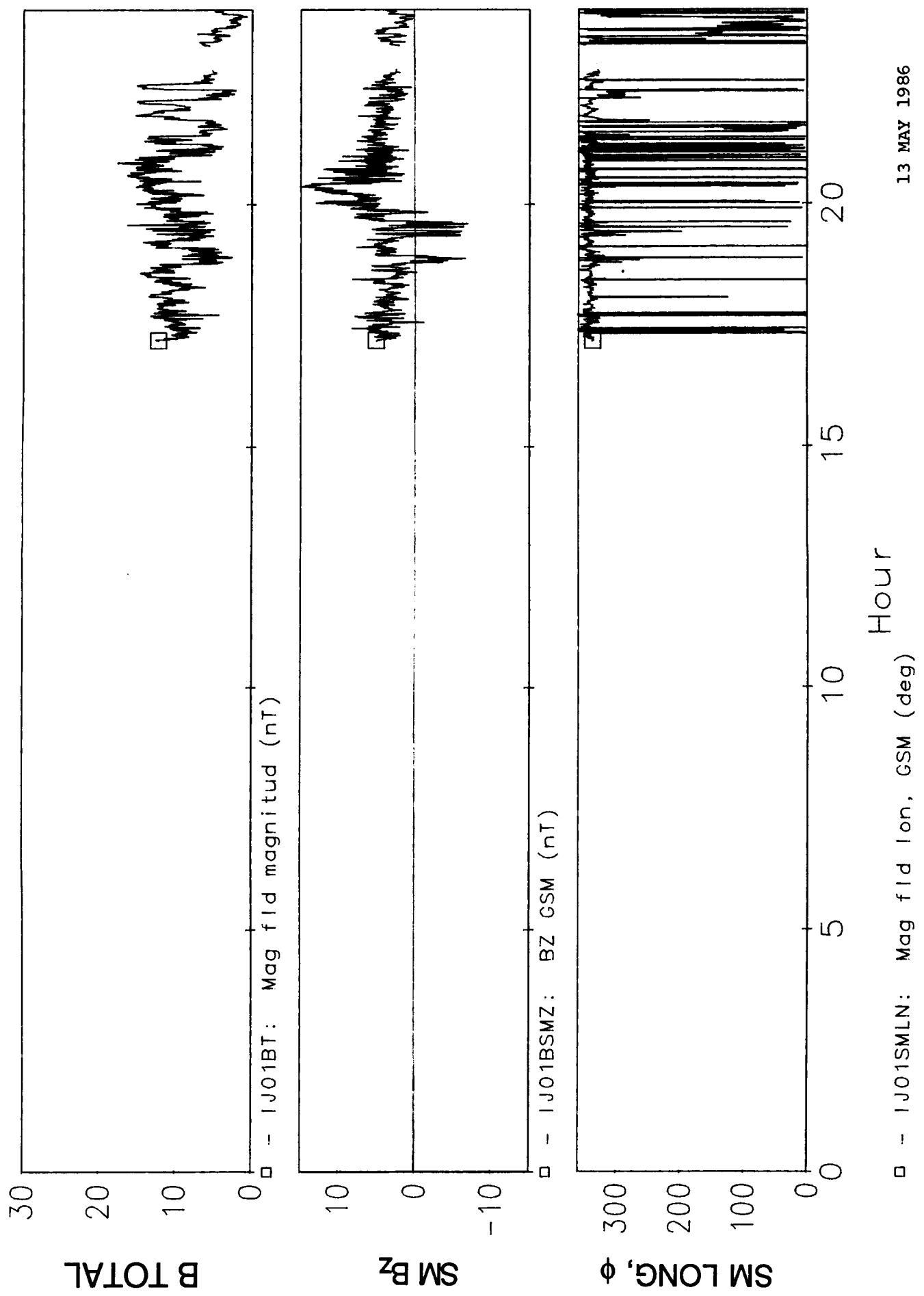


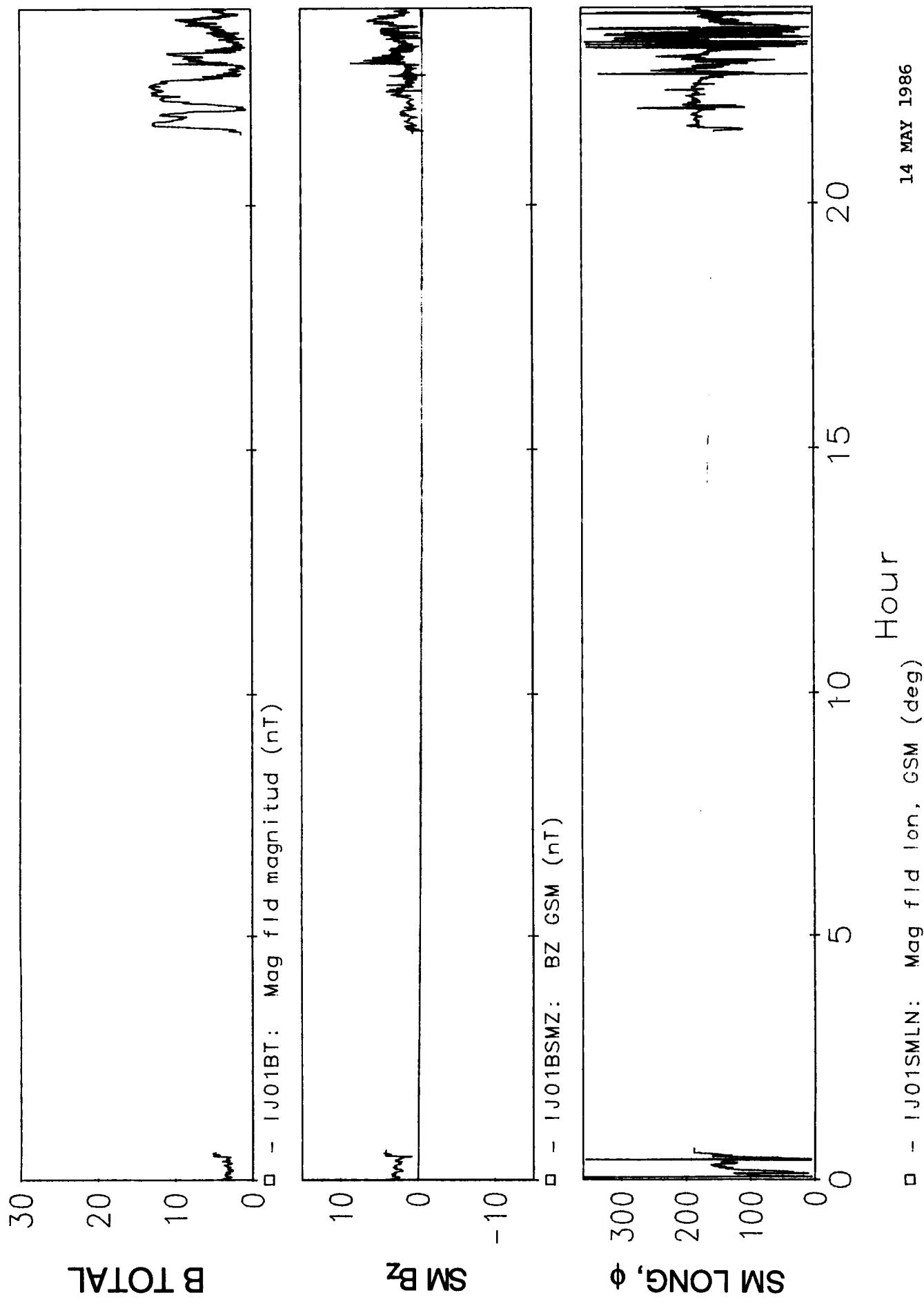


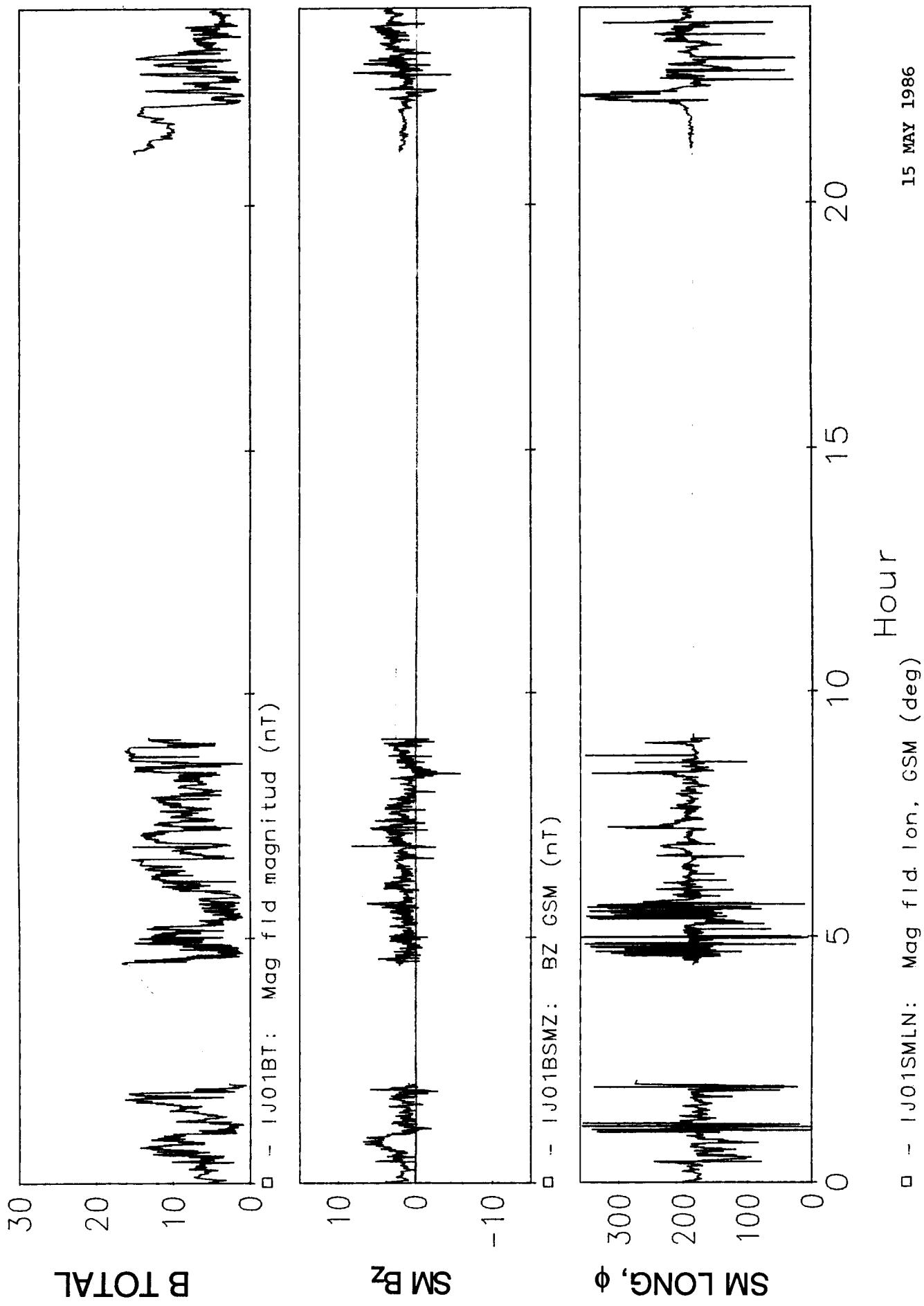


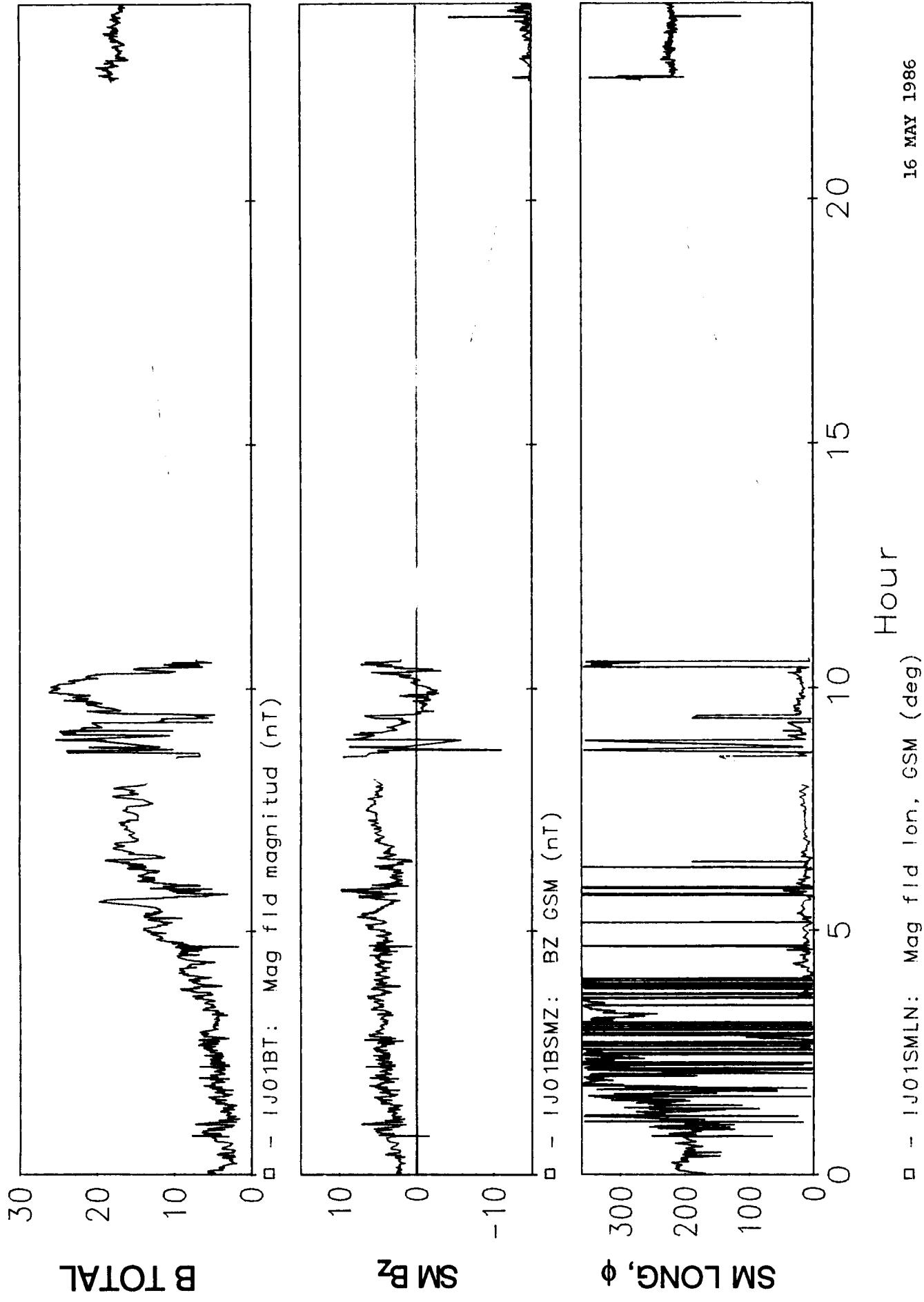




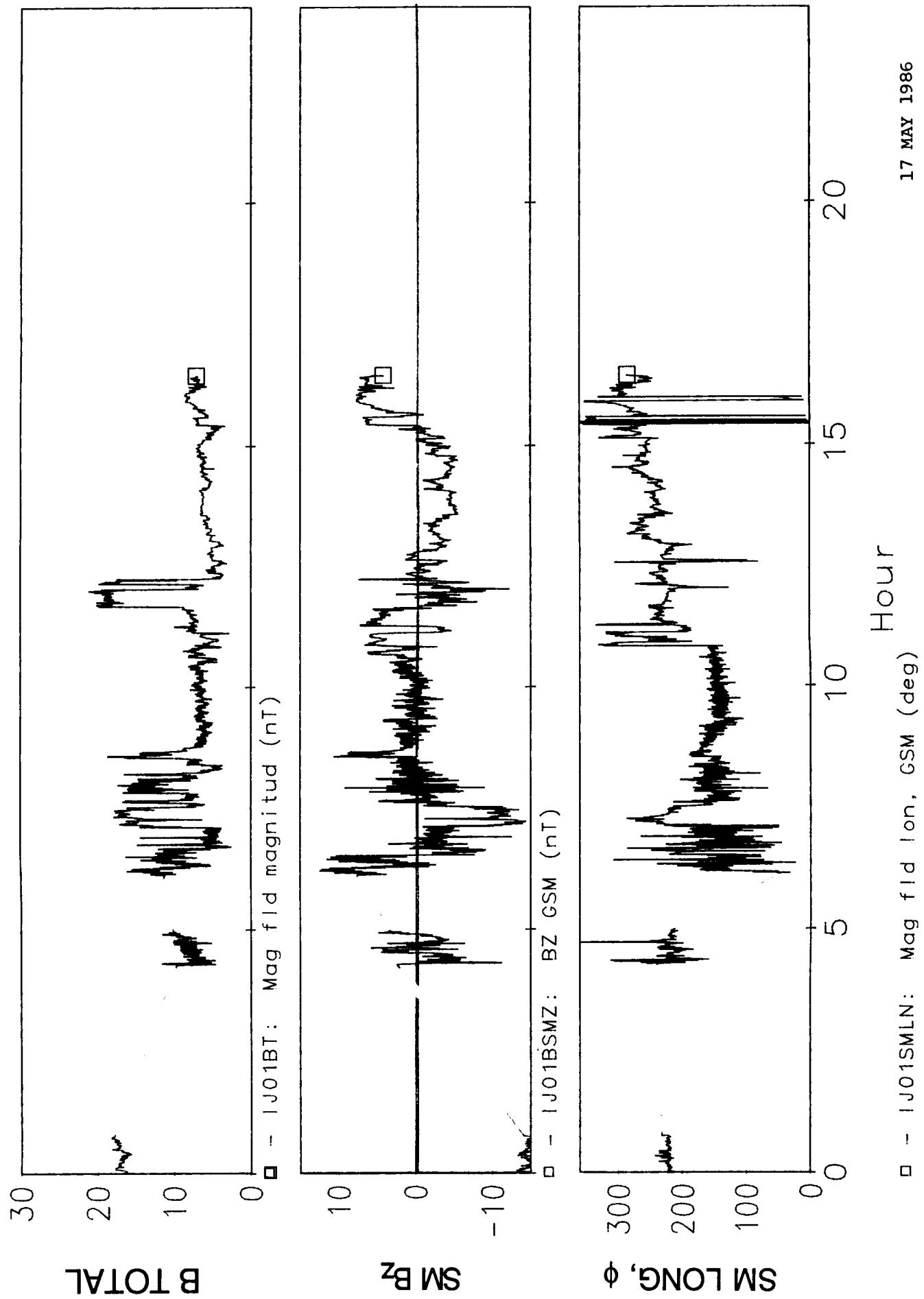


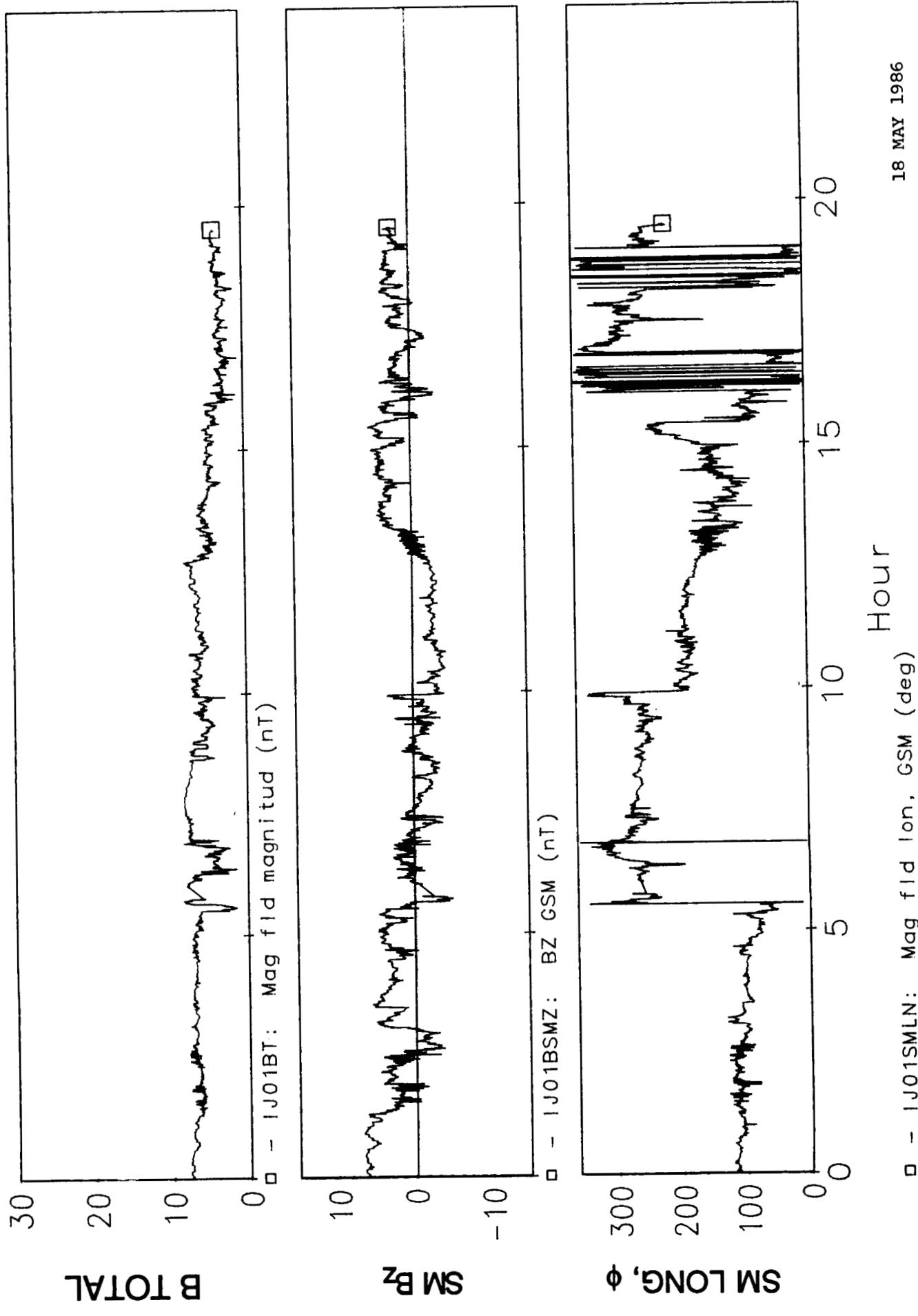


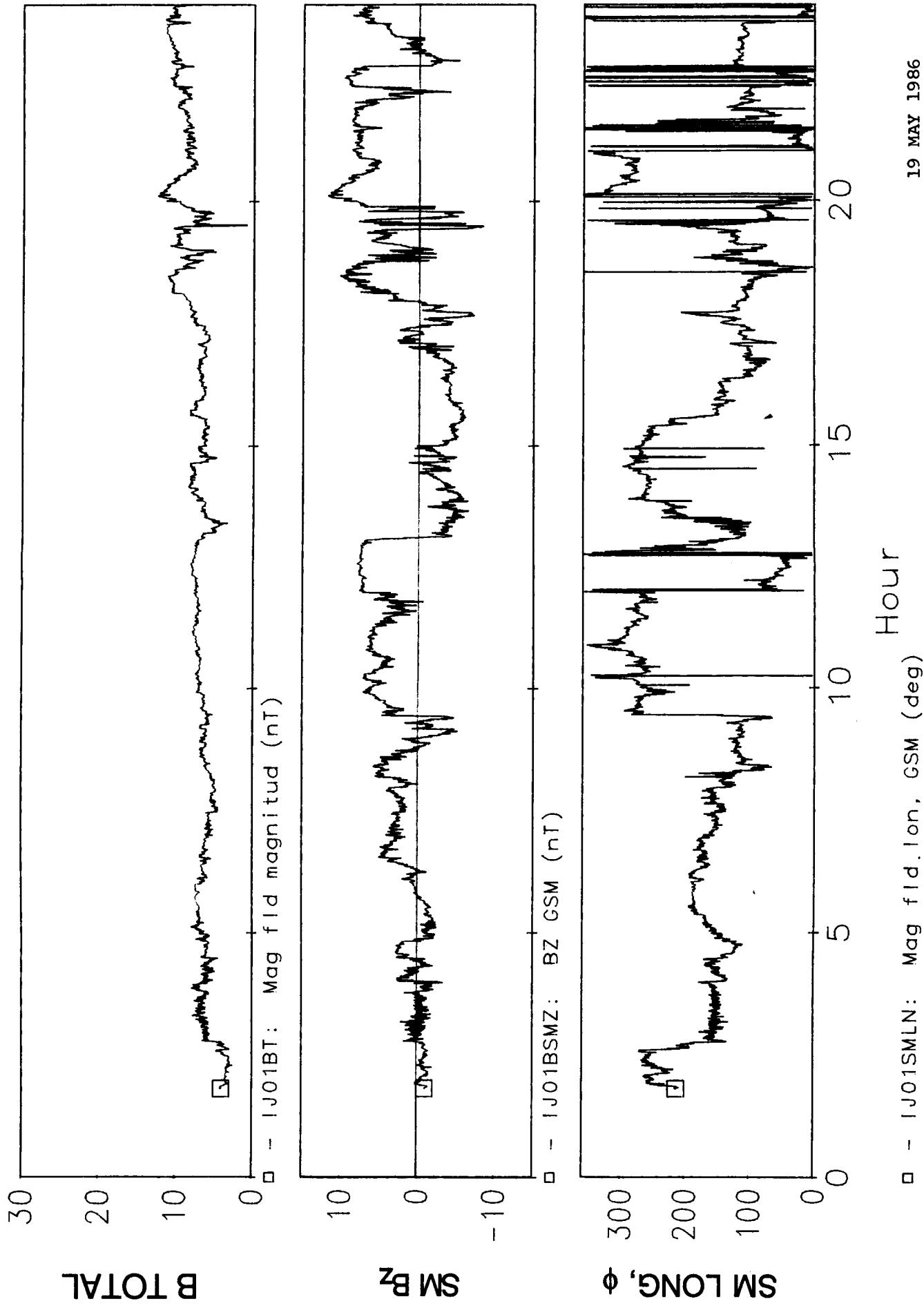


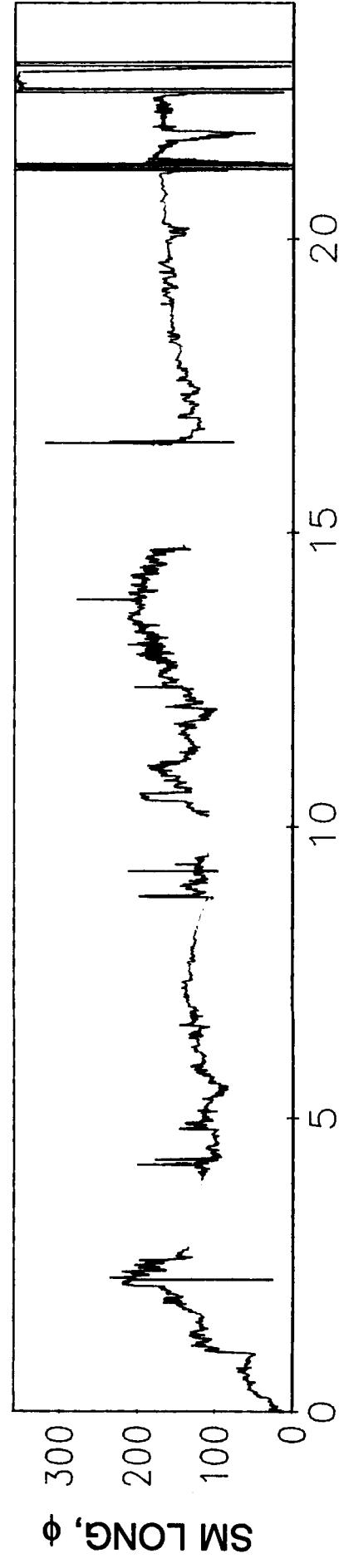
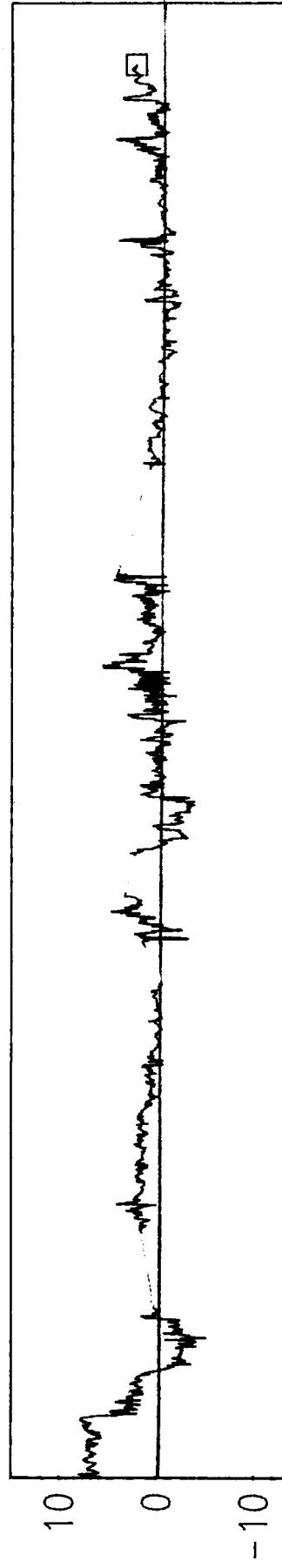
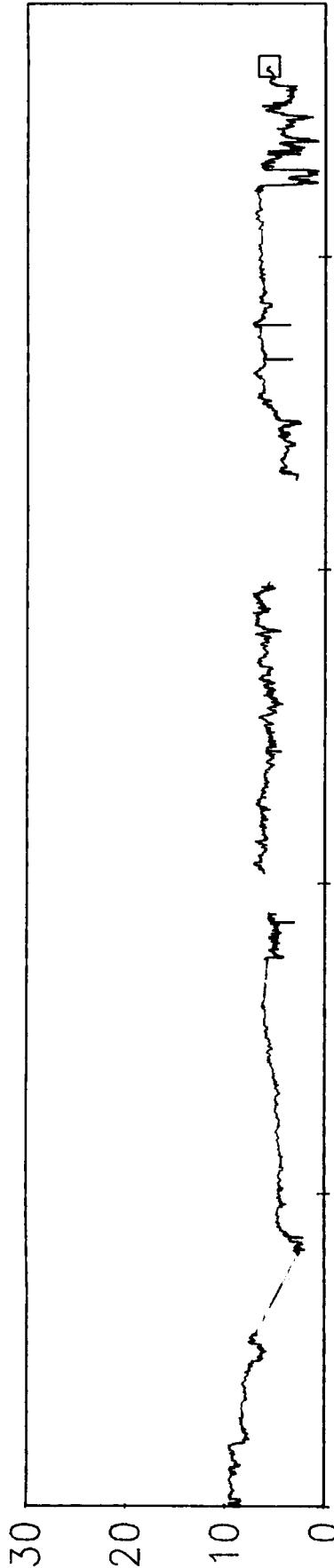


16 MAY 1986

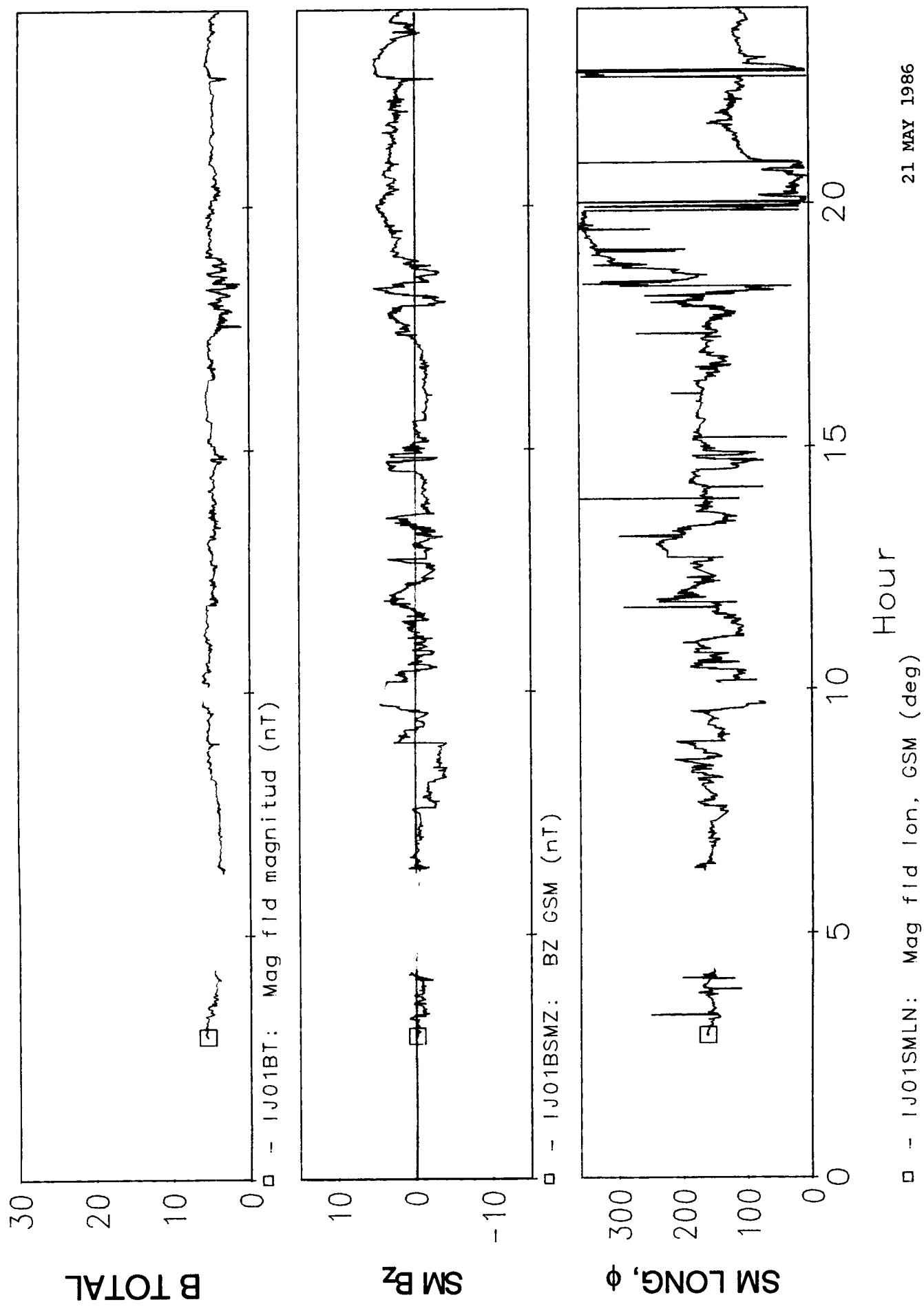


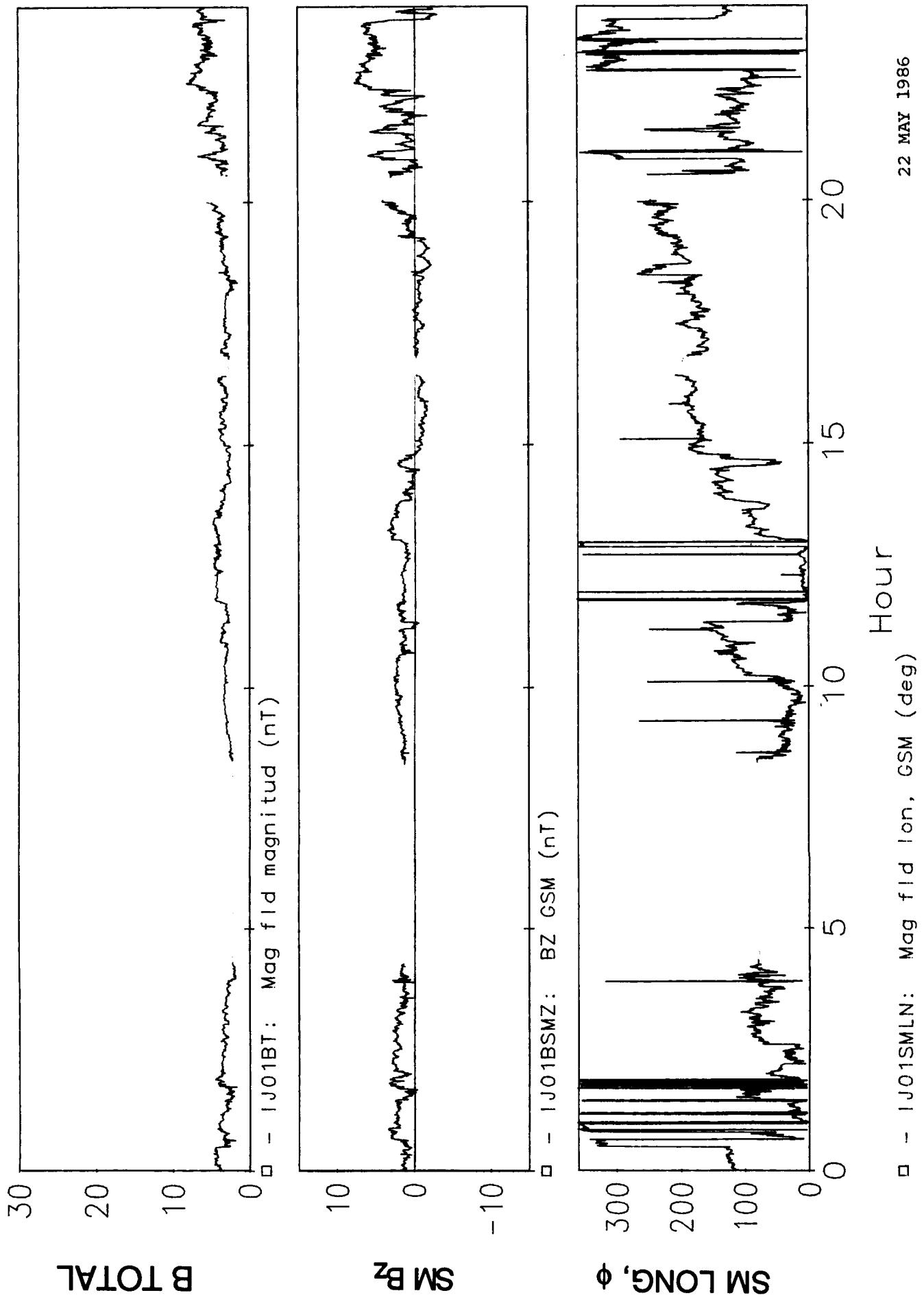


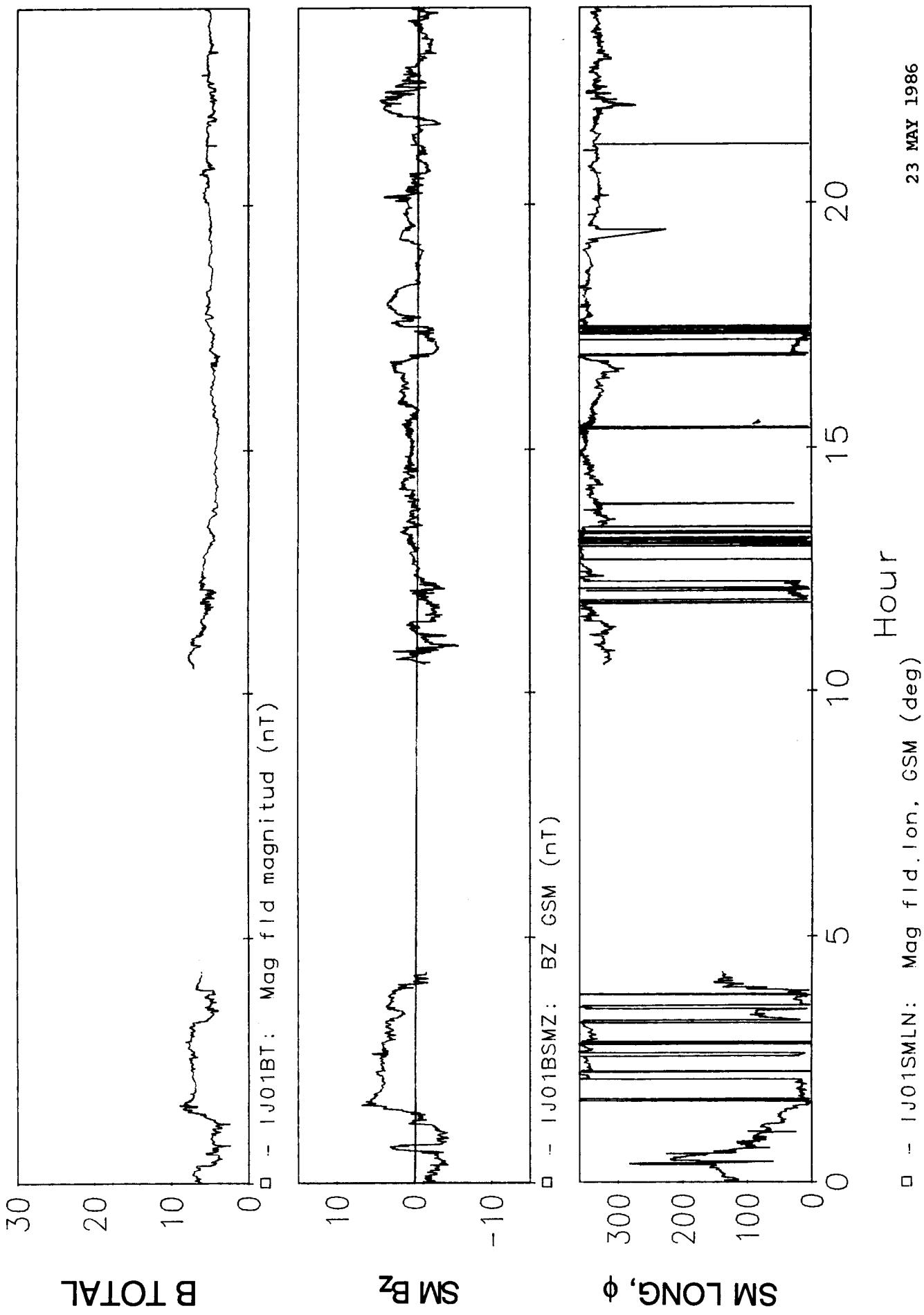


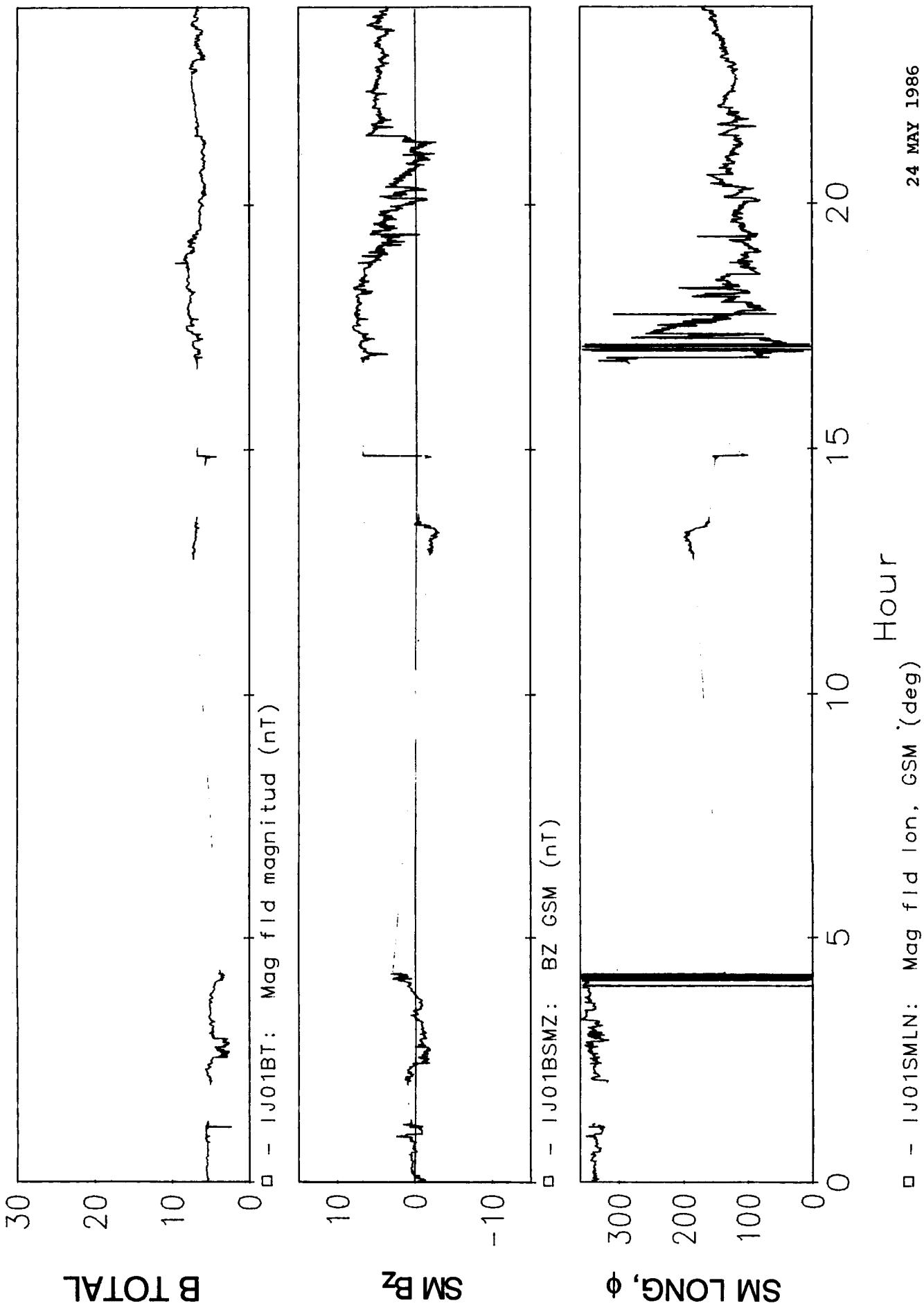


20 MAY 1986

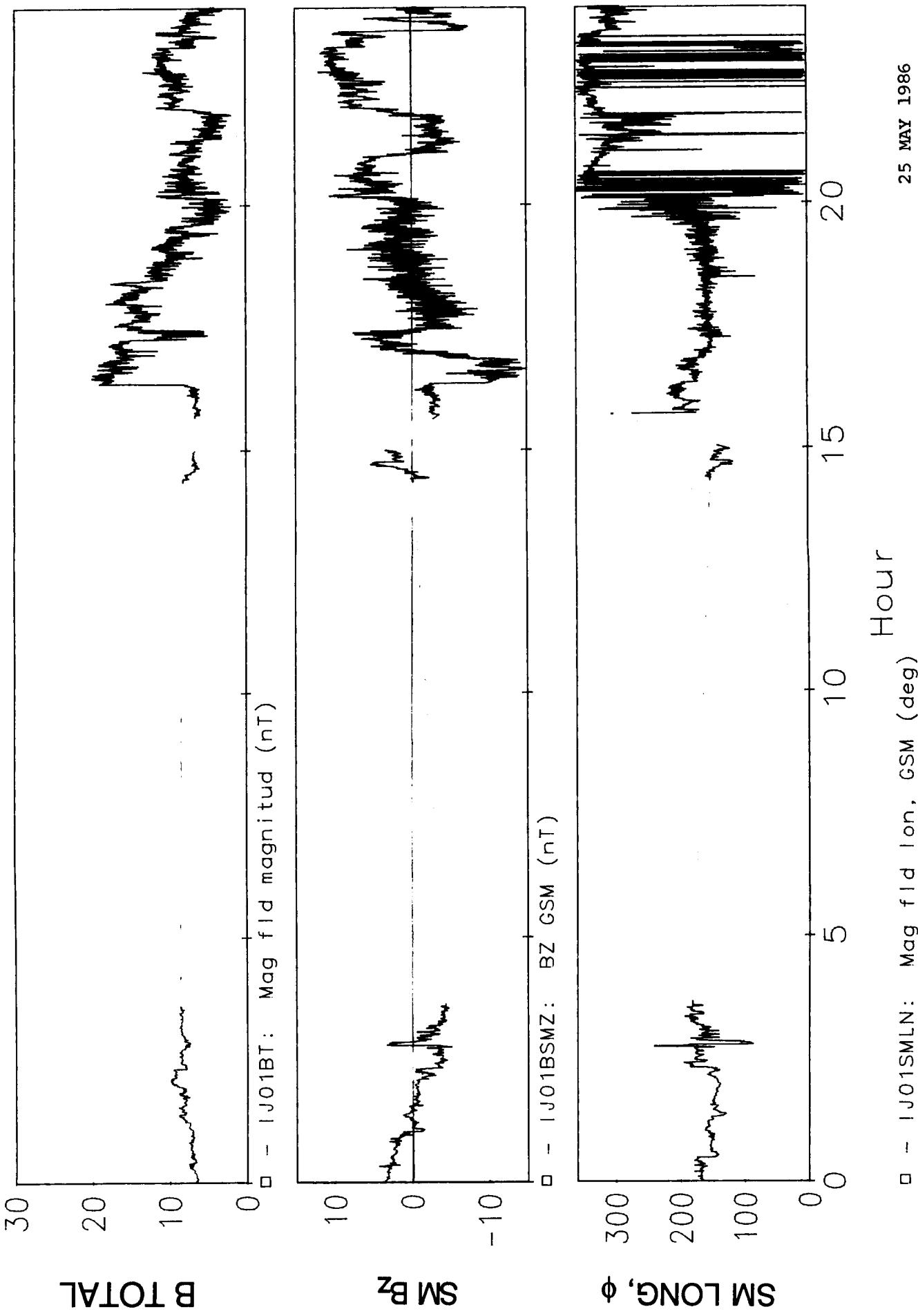


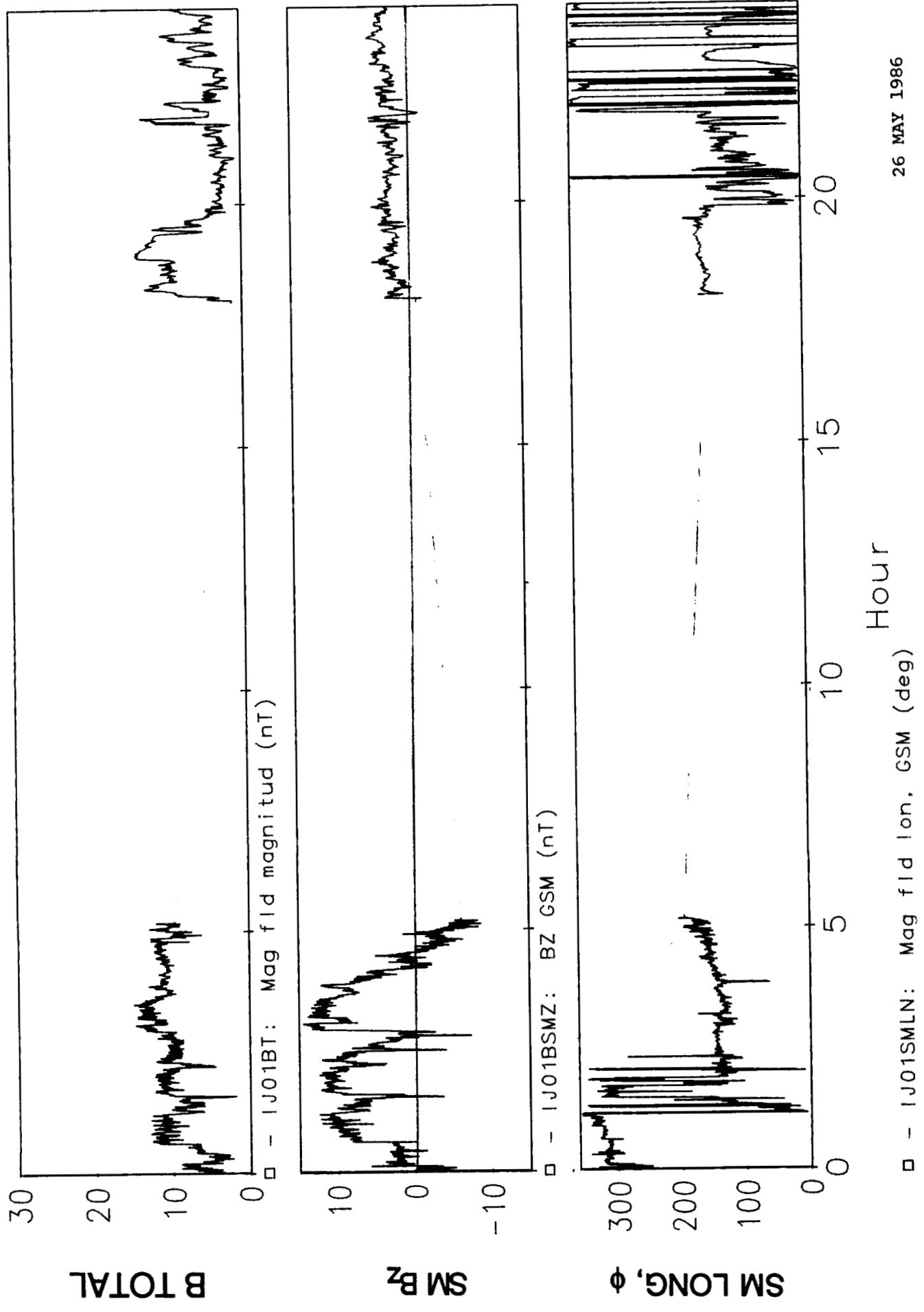


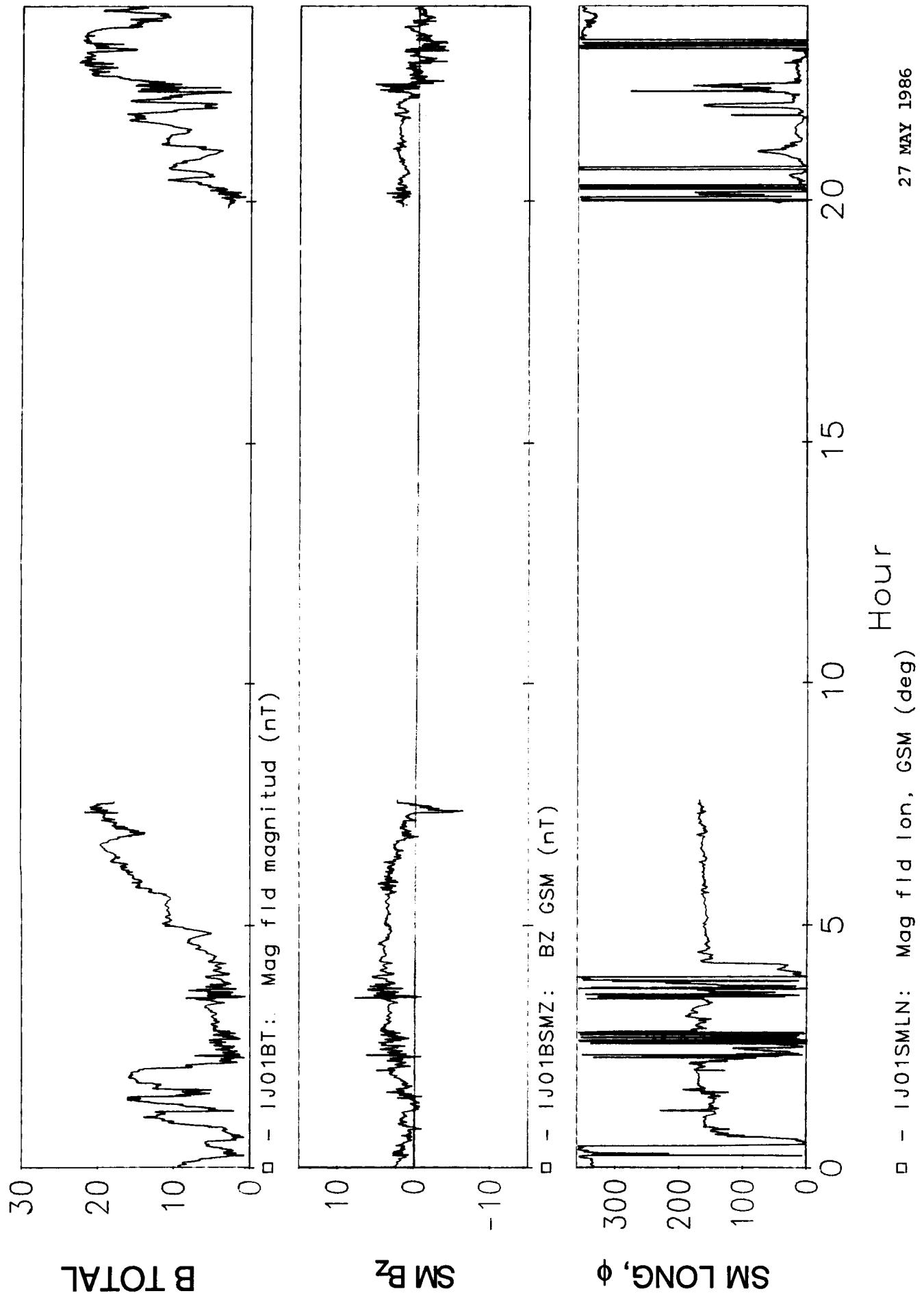


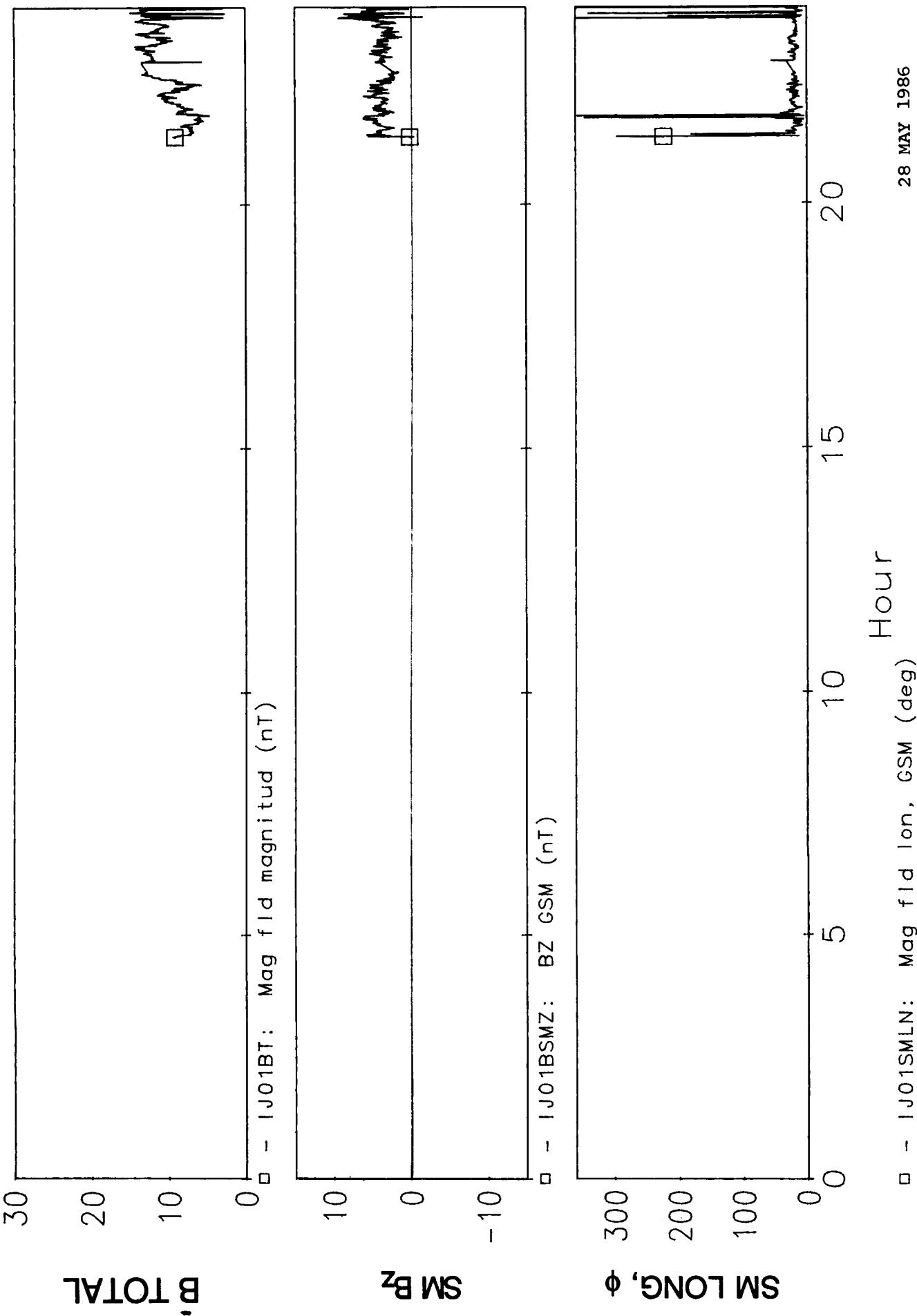


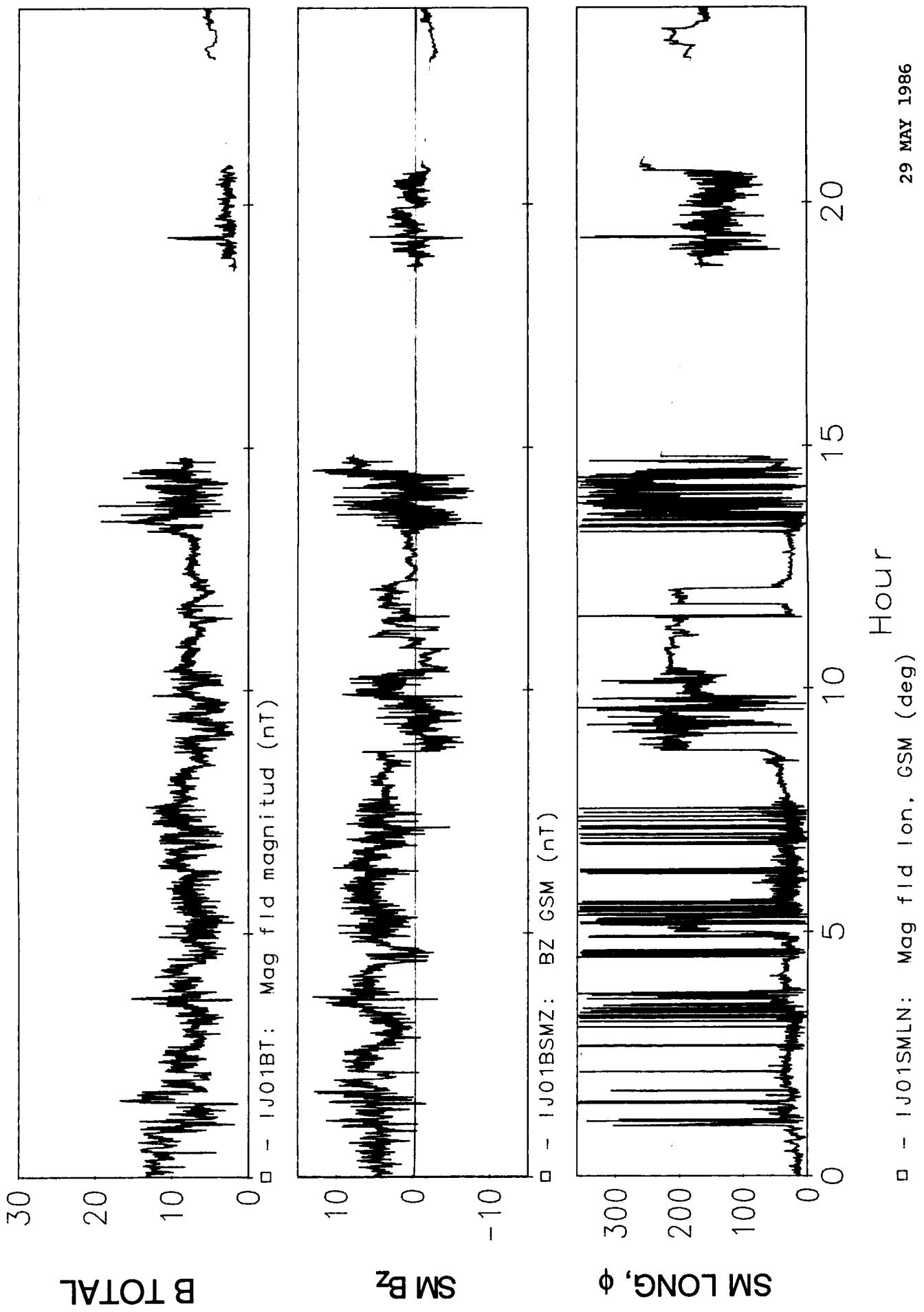
24 MAY 1986

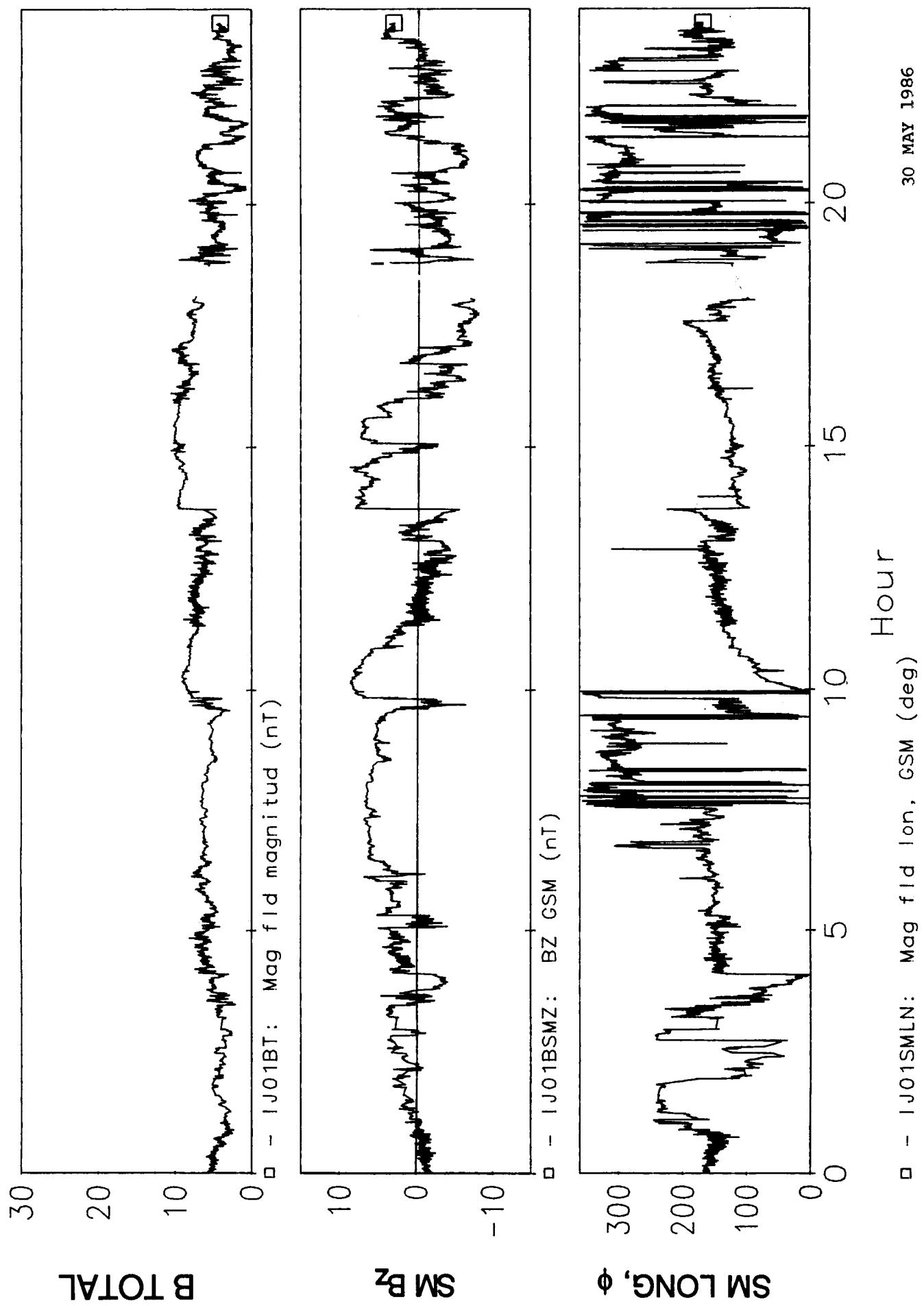


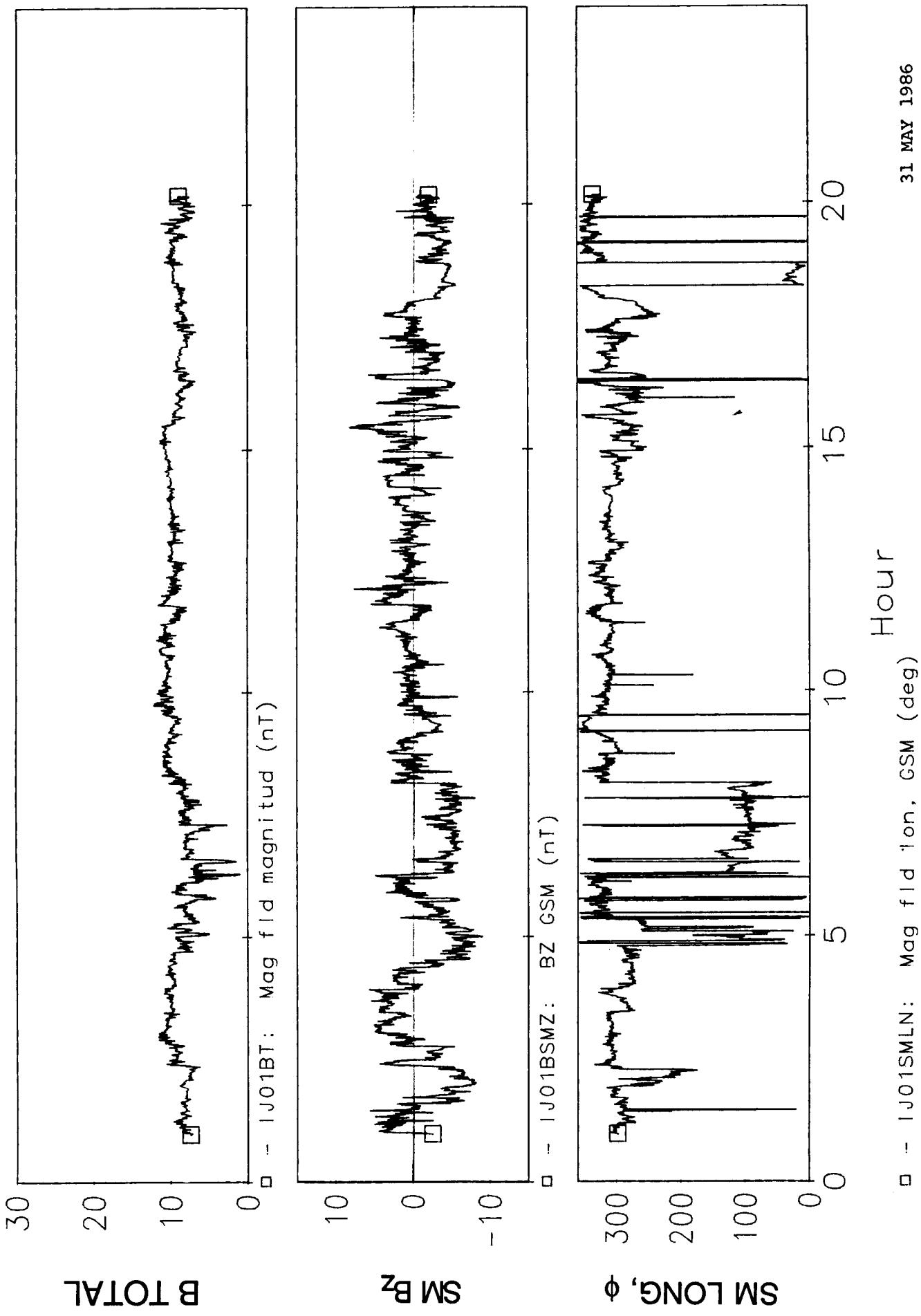


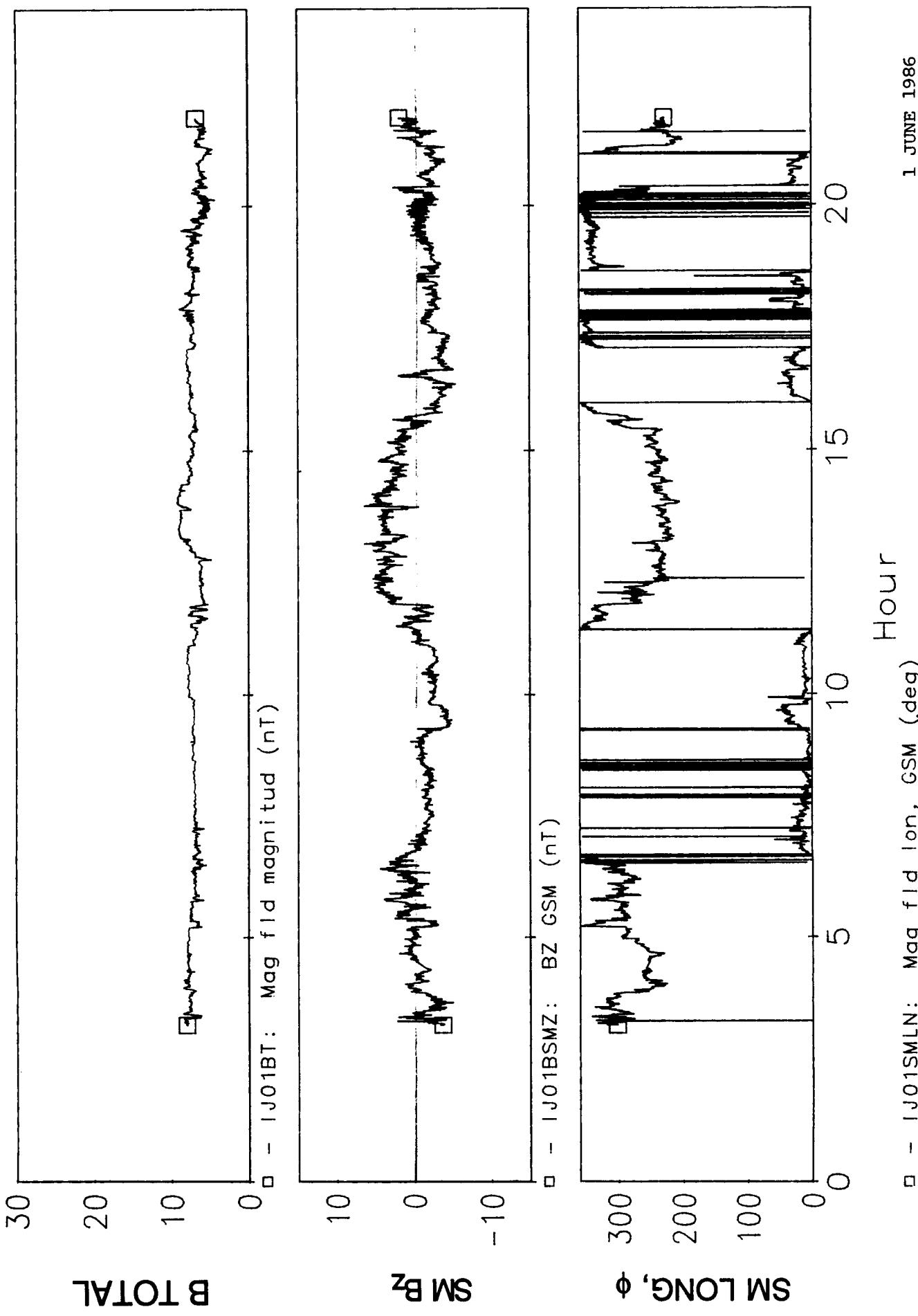




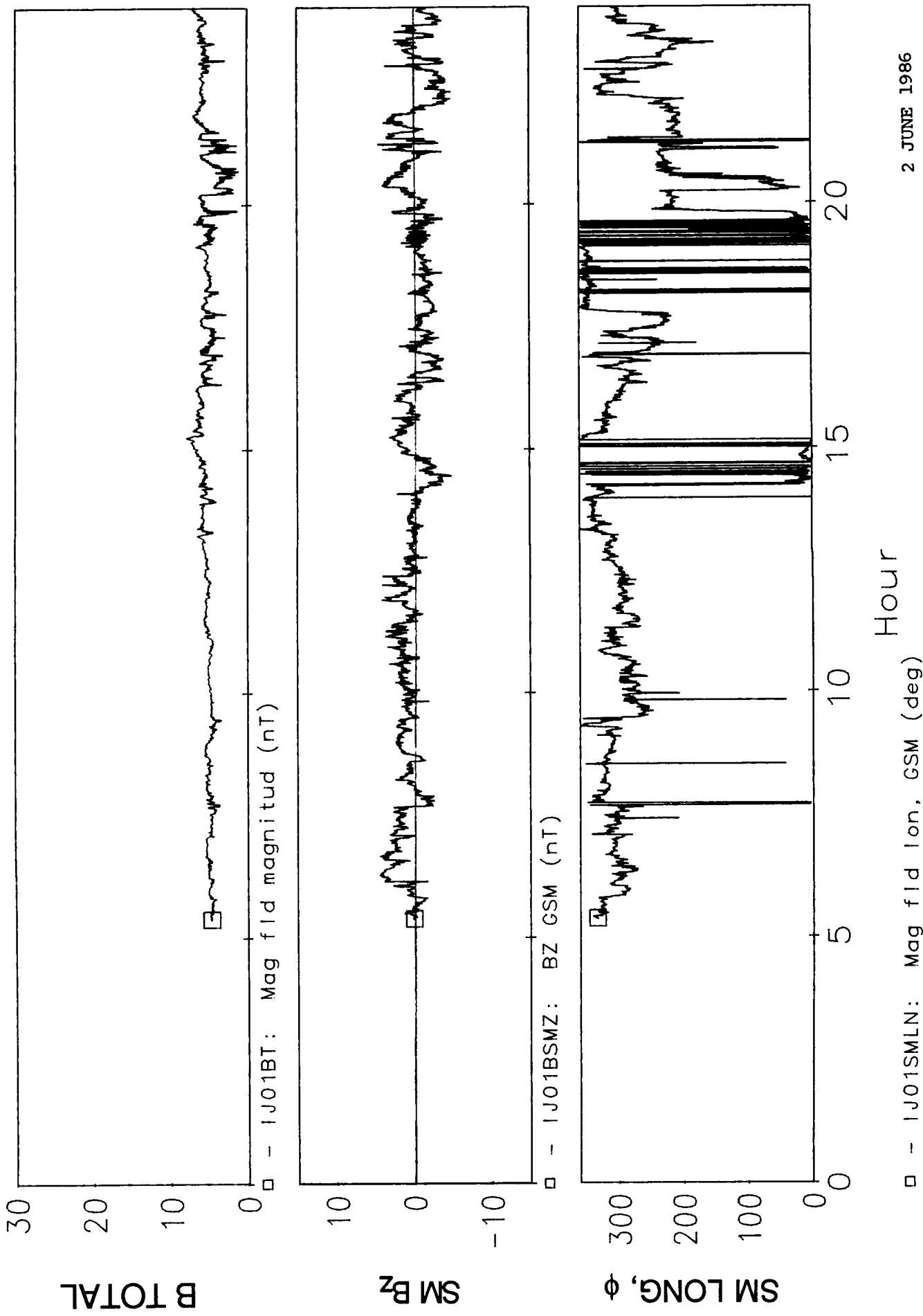


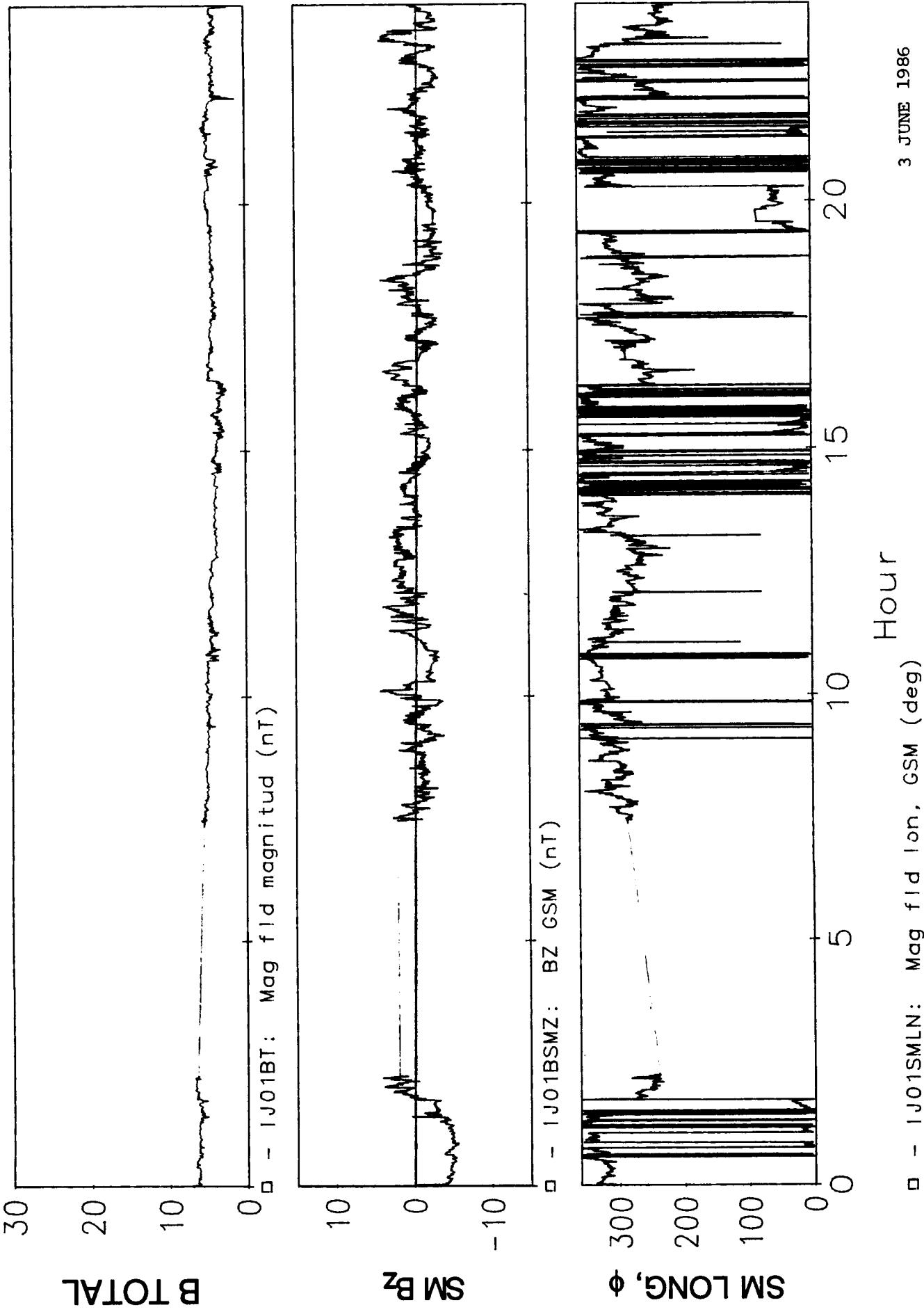




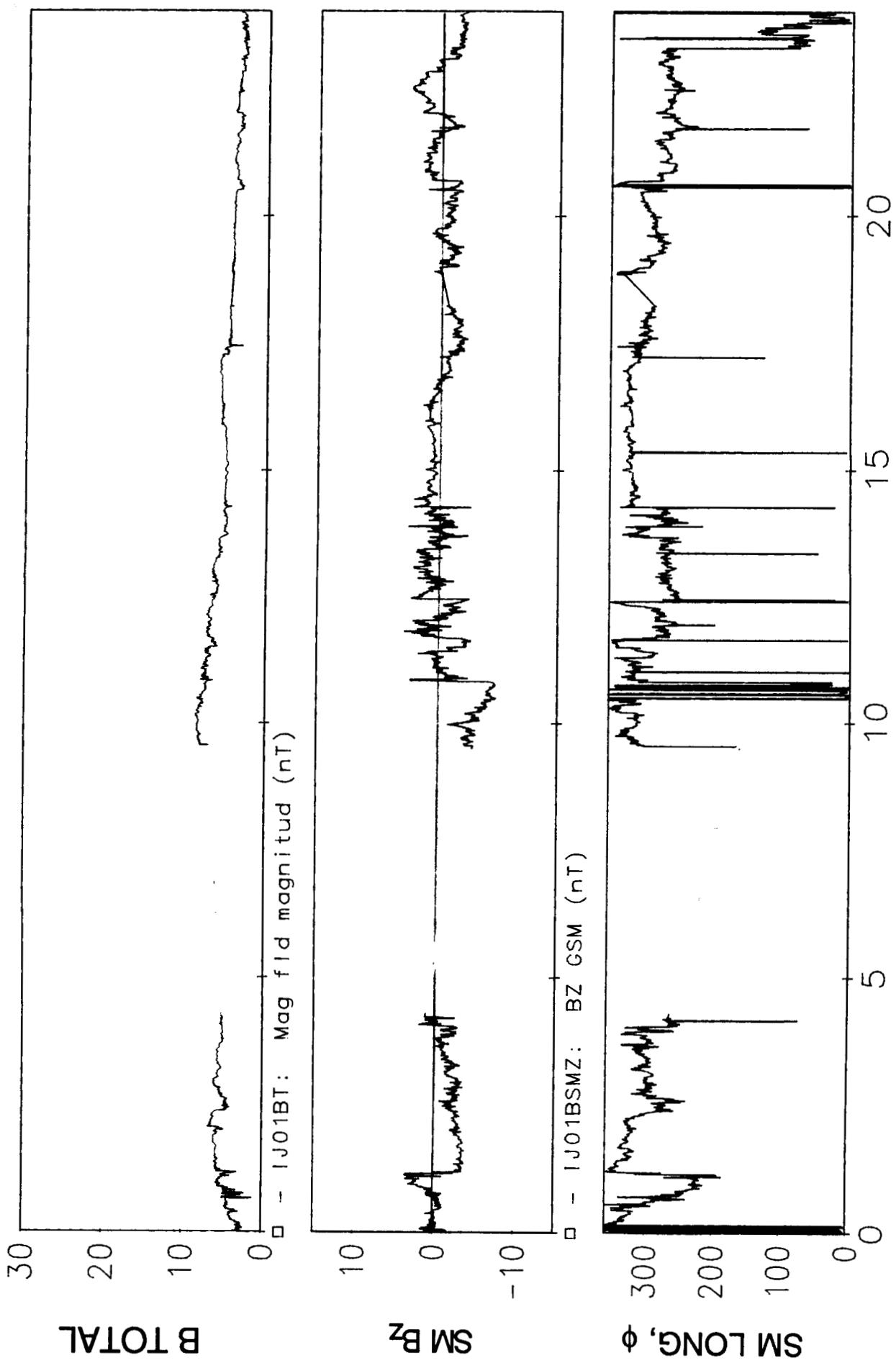


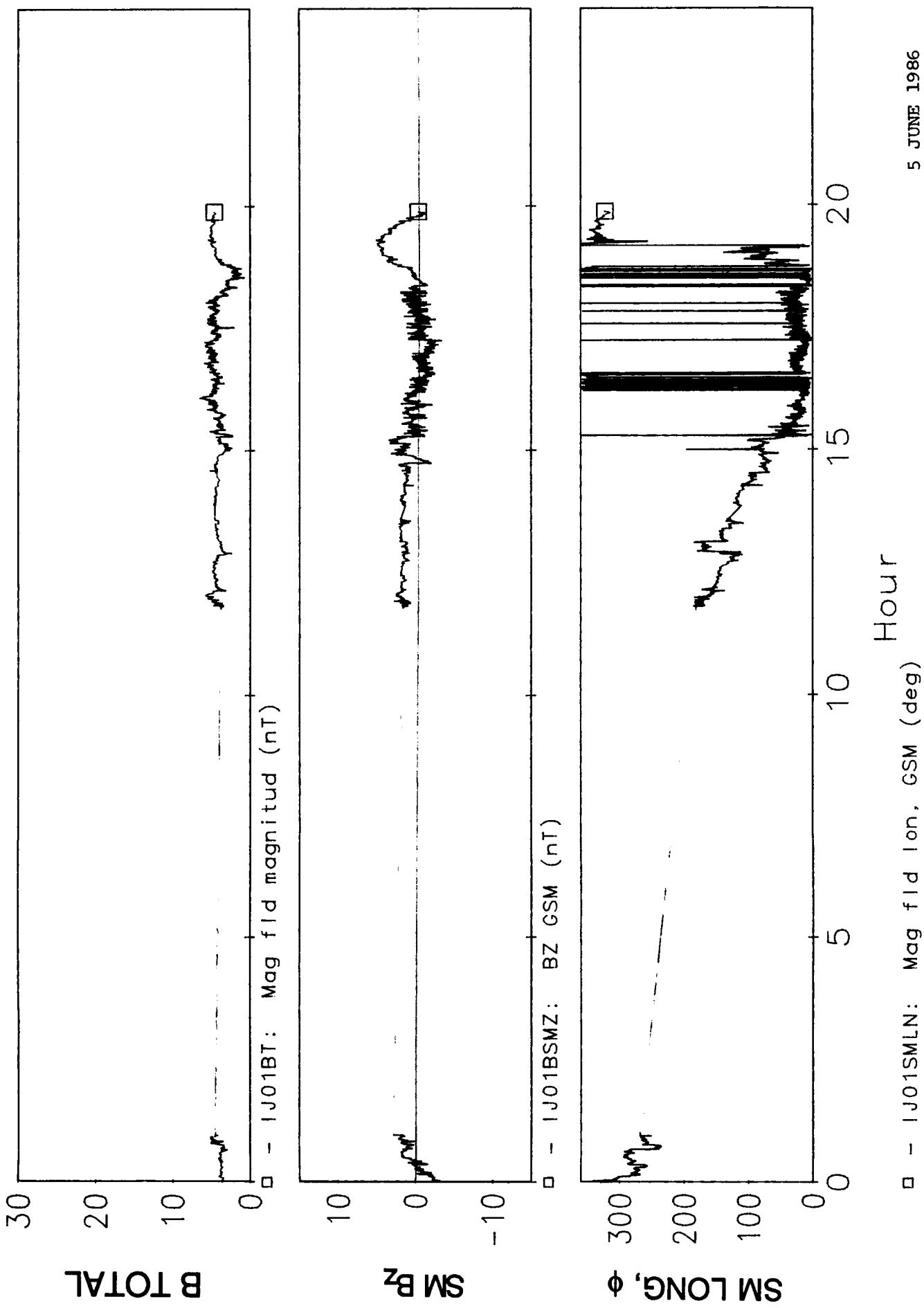
1 JUNE 1986





□ - IJ01SMLN: Mag field Ion, GSM (deg) 4 JUNE 1986





5 JUNE 1986

□ - IJ01SMLN: Mag field Ion, GSM (deg) 6 JUNE 1986

